

A PRELIMINARY ACCOUNT OF THE LEPIDOPTEROUS FAUNA OF GUELT-ES-STEL, CENTRAL ALGERIA.

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GUELT-ES-STEL is situated on the "Hauts Plateaux" in the Province of Alger, about 92 kilometres south of Boghari, and is between 3300 and 3600 ft. above the sea. It consists of a Bordj or Rest House, an Arab café, a Post Official's house, and two or three native huts and stables, and is situated in a narrow valley between two ranges of low hills. This valley widens out about 4 or 5 kilometres north and south into the great Halfa Plain or "Mer d'Alfa" of the French. The soil is clay and loam mixed with much stone, and is very rich in plant life, being almost covered with bushes and innumerable *Compositae*, with here and there a stunted *Juniperus* or Betoum (*Pistacia atlantica*).

Our first acquaintance with Guelt-es-Stel was in 1911, when we stayed there for lunch on our way to Ghardaïa. On our return journey we were delayed there some hours owing to the theft or loss of some luggage, and Dr. Nissen was fortunate enough to discover *Euchloë tagis pechi*. This determined me to revisit the place for a more prolonged stay, and Dr. Nissen, Dr. Jordan and I spent ten days there in the second half of April 1912. In spite of unfavourable weather, we caught so many good species that I made up my mind to have the place thoroughly explored. To this end I have had Victor Faroult collecting there for fifteen or sixteen months, and Dr. Nissen has most generously sent me much that he has taken; so that, although I believe the locality is far from exhausted, the present list gives a very good idea of the Lepidoptera of one of the richest collecting grounds in Algeria. The area collected over is about 12 or 14 kilometres long by about 4 or 5 wide; and I think the fact that this small area produces about two-fifths of the species of *Rhopalocera* known from Algeria—viz. 40 out of 105—will prove very surprising to most entomologists. In spite of the careful and systematic collecting, a few species which undoubtedly occur, such as *Papilio machaon*, have escaped us; but, on the other hand, so many unexpected rarities, such as *Cymbalophora haroldi*, *Holcocerus powelli*, and *Chondrostega powelli*, have been taken, that the locality, small as it is, is undoubtedly a veritable entomological El Dorado.

The following is a complete list of the species we have taken ourselves or received from Victor Faroult:

RHOPALOCERA.

PAPILIONIDAE.

Pierinae.

1. *Pieris (Leucochloë) daplidice raphani* (Esp.).

Papilio Danus raphani Esper, *Eur. Schmett.* vol. i. Part II. p. 163. pl. LXXXIV. Cont. xxxiv. (Russia).

Of this species I have not obtained a very large series, and it appears to be much rarer than the several species of *Euchloë*. A small series of specimens are

in the collection from the months of April, May, and June, and there are three ♂♂ from August, one from September, and one from July.

The April specimens number three-fifths of the whole series, and all except three were taken by Dr. Jordan and myself in 1912; the three others and the specimens from other months were taken in 1913 by Victor Faroult.

The form from the Hauts Plateaux seems undoubtedly Esper's *raphani*, and shows much less individual variation than the more southern desert form *albidice* Oberth. They appear to keep more to the eastern side of the valley, near the large water tanks.

2. *Euchloë falloui* (Allard).

Anthocharis falloui Gaston Allard, *Ann. Soc. Ent. France*, Ser. 4. vol. 7. pp. 312 and 318 (1867) (Biskra).

This species is extremely rare in Guelt-es-Stel, and there are only 2 ♂♂ 1 ♀ in the collection taken by ourselves on April 23, 1912, and Victoria Faroult in March 1913.

It appears that the Djelfa-Guelt-es-Stel district is the most northern part of the Hauts Plateaux where this insect occurs. I can find no record of its occurrence north of Biskra and El Kantara in the Province of Constantine, and there appears to be no record at all in the Province of Oran.

Elsewhere it appears in two generations, and the somewhat different ♀ has been described by Röber as a distinct species under the name of *seitzi*!

The species is widely distributed, but only in desert regions, stretching right across Africa from W. Morocco to Somaliland. The Central Saharan form is apparently different in the summer generation.

The food plant is *Moreoandia arcensis suffruticosa* and allied forms.

3. *Euchloë belemia distincta* Röber.

Euchloë belemia distincta Röber, in *Seitz, Grosssch. der Erde*, vol. i. p. 51 (1909) (Philippeville, Algeria) (Gen. aest.).

Euchloë belemia occurs in two races in Algeria, viz. *b. distincta* north of the Atlas Mts., and *b. desertorum* south of the Aurès Mts., and I cannot see that the form from the "Hauts Plateaux" can be separated from *b. distincta*; though the general run of the specimens from Guelt-es-Stel are slightly smaller when compared with the giants from Hammam Rhira.

The spring form of the northern subspecies flying from January to April differs from the **form. vern.** *belemia* of *belemia belemia* in its smaller size and less extended green bands on the underside of the hindwings; I name it **form. vern.** *röberi* form. nov. There appears to be less variation in this species than in the following one, but in the **form. aest.** *distincta* the amount of yellow on the underside of the hindwings and the distribution of the streaks is, all the same, very different individually. Spanish specimens, especially ♀♀, show occasionally quite as much black above as Algerian ones, and undoubtedly *b. distincta* is not so distinct from *b. belemia* as the Central and South Algerian form of *ausonia* is from the various European races.

I have this species from Guelt-es-Stel from the months of March, April, and May 1911, 1912, and 1913; those from April 1911 and 1912 having been captured by ourselves.

In November 1913 Victor Faroult and Dr. Nissen took some five or six

specimens of an *Euchloë* which above resemble *ausonia melanochloros* in colour as well as in shape, but below are in markings exactly intermediate between that and the present species. I was inclined to believe that these specimens were a third or autumn generation of *belemia*, but I find that we took a similar specimen on April 22, 1912, and I am therefore most reluctantly obliged for the present at least to look upon them as hybrids.

It is a curious fact that up to now neither Dr. Nissen nor Victor Faroult has captured either *belemia distincta* or *ausonia melanochloros* in the autumn at Guellet-es-Stel; so that if these intermediate specimens are really hybrids it would seem that the fact of interbreeding hastens on the development.

4. *Euchloë ausonia melanochloros* Röber, gen. aest.

Euchloë belia melanochloros Röber, in *Seitz, Grossschm. der Erde* vol. i. p. 52 (1908) (Batna).

Anthocharis tagis algirica gen. vern. Oberthür, *Etud. Entom. Comp.* Fasc. iii. p. 145 (1909) (Méchéria) (= *Euchloë belia* auct. nec Linn.).

The confusion in the nomenclature of the group of forms whose correct collective name is *Euchloë ausonia* Hübn., but which has been almost always called *Euchloë belia* Cram., is as astounding as it is heart-breaking.

Most authors when discussing the synonymy of this group of forms dismiss the question far too lightly, for they almost invariably take refuge in the assertion that Linnaeus' *Papilio belia* of 1767 is a doubtful species, and therefore the name cannot be used, and the oldest name for the *ausonia* group is *belia* Cram. Now by this assertion Staudinger, Verity, Oberthür, and a host of others commit two separate errors; the first error being in terming Linnaeus' *Papilio belia* a doubtful species, and the second in adopting a later author's use of the name *belia*. With regard to the first error Linnaeus, in his *Editio XII.*, vol. i., Part 2, p. 761, No. 84, says of the underside of the hindwings of his *belia*, "*flavissime*," meaning intense yellow. Now as to the question of doubt, his description of the upperside is: white, the forewing with a black lunule and a yellow apex, and he gives the habitat in *Barbaria*. (Brander.)

There are only two butterflies in Mauritania (= Linnaeus' "*Barbaria*") which have a white upperside with yellow (or orange) apices to the forewing—viz. the ♀ of *Euchloë eupheno* Linn. and the desert insect *Teracolus दौरا نونا* Lucas; and these various authors assert that Linnaeus' diagnosis fits both. This I deny, as "*flavissime*" (= intense yellow) does fit the ♀ *Euchloë*, but **certainly not** the *Teracolus*, which has the underside of the hindwings whitish, or pinkish brown or dirty pink.

Again, Brander, who sent the insect to Linnaeus, was the Swedish Consul at Algiers, and at that time could not go outside the town of Algiers and its suburbs. The *Euchloë* at the present day is still abundant in and around Algiers, but the *Teracolus*, except in the extreme west of the province of Oran, is confined to the desert in and beyond the southern Atlas range. Therefore it is quite clear that as Linnaeus' "*Papilio belia*" came from Brander and therefore was caught in the environs of Algiers itself, and had an intense yellow underside to the hindwings, it can only have been the *Euchloë*. This being so, and as the ♀ *Euchloë* is described on page 761, while the ♂ *Euchloë* is described on page 762, the name *Euchloë belia* Linn. must be used for the butterfly hitherto called by most authors *Anthocharis eupheno* (Linn.).

The second error is much more serious, for every zoologist who describes or writes on systematic zoology ought to know that, if a name has been used by a previous author, even if it is impossible to make out what species is meant, it can never again be used. But, as in this case a little careful thought would have made Linnaeus' species quite easily recognisable, I maintain the application of the name *belia* Cramer was doubly indefensible. That author himself only quoted Linnaeus' name, figuring, as he supposed, the ♀ of the Linnaean species.

Having thus, as I trust, once for all explained why the orange and yellow species of *Euchloë* from North Africa must be called *belia* Linn., I will proceed to do my best to unravel the nomenclature of the white species, though I will say at once that I do not wish to assert that I have got all the forms correctly assigned and named. The American races and the Transcaspian and other Asiatic forms do not come into question as regards the nomenclature generally and the synonymy of the Algerian forms in particular, so I shall not mention them here.

As we have seen above, the name *belia* cannot apply to our present species, and we find that the next names applied to a form of this species are *ausonia* of Hübner in 1803 and *marchandae* Hübner in 1827 or 1828. Here again we find these names wrongly applied by almost all subsequent writers, and Butler in 1869 was the first to point out that both *ausonia* Hübner and *marchandae* Hübner refer to the high mountain race with a single generation which goes usually under Freyer's name of *simplonia* (1829). Therefore we have to take as the real name-type of the species the Alpine single-brooded subspecies, and it stands as *Euchloë ausonia ausonia* Hübn.

Having got so far, we are now faced with the great difficulty of first deciding whether the Spanish, French, and Algerian forms are all one subspecies or not, and then in either case what the correct name is of each form. Ribbe had already separated the Spanish race as distinct, and Verity separated the West Pyrenean form from the ordinary Alpine race, so there remain the French form and the Algerian ones. As far as my series will permit me to judge, and it numbers at least three times if not four times as many as Oberthür had in 1909 when he named the various races of *tagis* and of the present species—for of the *ausonia* and *tagis* groups from west of the Caucasus to Spain, etc., I have at present before me some three thousand specimens and have access to those in the British Museum, though the series there is not good—the Algerian forms will have to be treated separately from the French.

In 1869 Butler, as mentioned above, proved what the true *ausonia* was, and then proceeded to describe as a new species a form of which he took as his type a specimen purchased by the British Museum from Herr Becker, which was labelled "South Europe." Becker's localities are not as a rule reliable, or, as in this case, they are much too general. Having after a great deal of difficulty found and examined Butler's type of his *Euchloë cramerii*, I find it to be undoubtedly the Spanish form, as it agrees absolutely with a specimen taken in Andalusia. Why Butler put down Cramer's *belia* which came from Syria as a synonym of his *cramerii*, when he usually split up forms much less distinct, I am at a loss to conceive.

The summer brood of the race found in the south of France, etc., has received the name *Euchloë ausonia* Var. a, *Euchloë esperi* Kirby, who took as his type of this form Esper's drawing on his plate 94, fig. I. The spring brood has no

name, and I shall here name it *kirbyi*. The race from the Riviera to Genoa has received the name *matutia* Turati for its spring brood; the summer brood I here name *turatii*.

The Tuscan and Central Italian race has the names *romana* Calb. for the spring brood and *romanides* Verity for the summer brood. Count Turati has described the Sicilian form as *kruegeri* and *trinacriae*, i.e. spring and summer broods. The Grecian and Black Sea race has received the names *graeca* Staud. for the spring brood and *maxima* for the summer brood.

The Asia Minor race had its spring brood named *crameria* Butl. and its summer brood *taurica* Röber, while Verity named the spring brood from Jerusalem (Palestine) *triangula* Verity, and Frühstorfer described the summer brood as *melisanda* Frühst. The Egyptian form has for its spring brood the name *egyptiaca* Verity.

The Algerian forms have been most unlucky in their nomenclature, for they have received four names, all of which were given to aberrations—viz. *Anthocharis pechi* Oberth. (nec Staud.), *Euchloë tagis mauretunica* Röber, *Anthocharis tagis algirica* Oberth., and *Euchloë belia melanochloros* Röber. Unfortunately the typical Central Algerian race has received no name, so the spring brood has to bear the name *algirica* Oberth. and the summer brood that of *melanochloros* Röber. The North Algerian form is the same as the Spanish. Before going into details about the Guelt-es-Stel series I think it will enable my readers to understand the above explanation better if I give a table of the European and Mediterranean forms of *Euchloë ausonia* Hübn. They fall into two natural groups: 1, single-brooded, and 2, double-brooded. In all the different local races in Group 2, the first or spring brood can be easily distinguished from the second or summer brood by the markings on the underside of the hindwings and on the apex of the forewings. In the first brood these markings are sharply defined, bright grass-green or green slightly washed with black, brown or grey; in the second brood, on the other hand, the markings are much blurred, ill defined, and strongly washed and suffused with yellow. The table is in the nomenclatorial form of the recent List of British Birds as I think it gives the best idea of the various categories of forms.

EUCHLOË AUSONIA Hübn.

GROUP 1.

- (1) **Euchloë ausonia ausonia** Hübn.

Alps and Eastern Pyrenees.

- (2) **Euchloë ausonia oberthüri** Verity.

Western Pyrenees.

GROUP 2.

- (3) **Euchloë ausonia crameri** Butl.

gen. vern. *crameri* Butl.

gen. aest. *alhambra* Ribbe.

Spain and North Algeria.

- (4) **Euchloë ausonia esperi** Kirby.

gen. vern. *kirbyi* Rothsch.

gen. aest. *esperii* Kirby.

Central and Southern France.

- (5) **Euchloë ausonia matutia** Turati.
gen. vern. *matutia* Turati.
gen. aest. *turatii* Rothsch.
Riviera to Genoa.
- (6) **Euchloë ausonia romana** Calberla.
gen. vern. *romana* Calberla.
gen. aest. *romanides* Verity.
Tuscany and Central Italy.
- (7) **Euchloë ausonia kruegeri** Turati.
gen. vern. *kruegeri* Turati.
gen. aest. *trinacriae* Turati.
Sicily.
- (8) **Euchloë ausonia crameria** Bntl.
gen. vern. *crameria* Bntl.
gen. aest. *taurica* Röber.
Asia Minor.
- (9) **Euchloë ausonia graeca** Stand.
gen. vern. *graeca* Stand.
gen. aest. *maxima* Verity.
Greece and Black Sea.
- (10) **Euchloë ausonia triangula** Verity.
gen. vern. *triangula* Verity.
gen. aest. *melisanda* Fruhst.
Jerusalem (Palestine).
- (11) **Euchloë ausonia aegyptiaca** Verity.
gen. vern. *aegyptiaca* Verity.
gen. aest. —? —?
Egypt.
- (12) **Euchloë ausonia melanochloros** Röber.
gen. vern. *algerica* Oberth.
gen. aest. *melanochloros* Röber.
Central and South Algeria.

With those we captured ourselves and also the series Victor Faronlt has sent in, I have the enormous number before me from Guelt-es-Stel of 1114 specimens, all from the months of March and April. The variation in this series is very considerable. In shape both in ♂ and ♀ there is a complete transition from sharp-pointed forewings and a shape almost as extreme as Verity's *triangula*, to broad rounded forewings, and a shape resembling that of *Euchloë tagis insularis* Stand. In size also there is much variation, the smallest ♂ having an expanse of 33 mm., while the largest ♂ measures 44 mm. In colour and markings, above, the apical patch is in some specimens very wide and of an intense black colour, while in others it is narrow and suffused with grey; the white in this apical spot sometimes consists of a row of separate smallish spots, while in other specimens there is a

broad band of almost coalescent blotches. The discocellular black spot varies also very much in size and shape, being sometimes small, irregular, and more or less wedge-shaped, while in others it is large and quadrate = ab. *quadra*. In some ♀♀ the hindwings are buffish yellow = ab. *postochracea* ab. nov. Again in both sexes there is a great difference individually in the number and size of the black streaks along the costal region of the forewings. Below the principal variation lies in the markings at the apex of forewing and the whole hindwing and in the discocellular spot. The latter is sometimes, as above, entirely black, sometimes it has a small central white dot, and sometimes this white central spot is so large that the black is reduced to a narrow ring. In the apex of the forewing sometimes the green markings are extended into regular bands and bars, in other specimens the green consists of irregular streaks and patches, while in a few specimens the white has either almost driven out the green markings or is replaced by yellow patches. But the greatest variation is found in the white marks in the green of the hindwing; in some specimens the entire hindwing is green with a few white irregular spots along the margins, even less than in the ab. *mauret nica* Röber = *pechi* Oberth.; in others the whole of the green is regularly spotted with white patches, in some specimens having a mother-of-pearl gloss, in others being dead white, as in *tagis*. Besides these there are all kinds of variations in the shape and size of the white markings till we find the opposite aberration, in which the whole hindwing is white with a network of green.

5. *Euchloë tagis pechi* (Stdgr.)

Anthocharis pechi Staudinger, *Ent. Nachr.* vol. 11, p. 10 (1885) (Lambessa).

This insect, which was up to 1910 one of the rarest Palaearctic species, was turned up at Guelt-es-Stel in 1911 by us, while stopping for lunch on April 28, on our way north from Ghardaïa. The first two specimens were taken by Dr. Nissen, the Danish Consul-General, and on that and the following day we took seventeen in all. In 1912 we spent ten days at Guelt-es-Stel, and although we got only three *pechi*, the rest of the captures were so promising that I determined to work the region thoroughly. This species only occurs in March and April, and in addition to our own captures in April 1911-1912, there is a large series taken by Victor Faroult in 1913-1914. Faroult also succeeded in rearing some ten or fifteen from the egg. The larvae and pupae are not different from those of typical *E. tagis*. All writers with the exception of Mr. Verity have treated this form as a distinct species, and Röber in *Seitz* even places it in a separate genus from *tagis*. This has led to innumerable errors, for local and aberrational forms of *ausonia* (= *belia* Cram. nec Linn.) have been described as the local N. African races of *tagis*. Mr. Verity was the first to point out that *pechi* was in reality the true representative form of *tagis* in N. Africa, and I can quite confirm his view, for both in the British Museum and in my own collection there are Portuguese and Spanish specimens of *tagis* differing very little from true *pechi*.

There is very little variation in this form; on the upper side the grey band in the dark apex of the forewing differs in size somewhat, while on the underside the median spot in the hindwing varies slightly. This insect is confined to the low hills on the western side of valley, extending from about the line of the Bordj to three kilometres south of it, where the hills cease. Victor Faroult obtained this

species also at Berronaghia, much to the north of Guellet-es-Stel, but otherwise it has, as far as I am aware, only been recorded from the Aurès Mountains (Batna, Lambessa, etc.) and El Kantara.

6. *Euchloë charlonia charlonia* (Donz.)

Anthocharis charlonia Donzel, *Ann. Soc. Ent. France*, vol. 11 p. 197 (1842) (Constantine).

This insect is extremely abundant, and the collection from Guellet-es-Stel contains 768 specimens from the months of March, April, and May, and October and November.

There appear to be two distinct generations, and the one flying in October and November can be distinguished by the much less conspicuous band of yellow spots in the black apex to the forewing. There is little general variation, the series being remarkably uniform.

The spring generation must stand as

Euchloë charlonia gen. vern. *levaillantii*,

and the summer and autumn generation as

Euchloë charlonia gen. aest. *charlonia*.

Dr. Stander in the *Zeitschr. Wiss. Insb.* vol. x. p. 84 (1914) (El Kantara) has named a late autumn dwarf form *atlantica*, but it remains to be proved if this is confined to the Southern Aurès, for certainly the autumn and summer broods at Guellet-es-Stel are not different in size, the autumn specimens being, if anything, the larger.

7. *Euchloë (Anthocharis) belia* (Linn.) (*eupheno* auct. plur.)

Papilio belia Linnaeus ♀, *Syst. Nat.* ed. xii. p. 761; ♂ *Papilio eupheno* p. 762 (1767).

This species is fairly abundant and is represented in the collection from the months of April and May. We ourselves only caught a very few in April 1911 and 1912, the great bulk having been taken by Faroult in 1913.

There is considerable variation. Above, the principal differences in the ♂♂ occur in the extent of the black tip and black inner band to the orange apex of the forewing; one ♂, April 15, 1913, having the whole apex almost black; this is the ab. *nigritior* of Stander. Below there is a considerable variation in the dark markings and extent of black scaling on the hindwings and in the size of the yellow tip to the orange apex of the forewing. In the ♀♀ above there is a great variation in the extent of the orange apex of the forewings as well as in the black scaling on this apex; some females almost approach the Moroccan race *androgynæ* Leech, and for these I propose the name ab. *intermedia*. Below the variation is similar to that shown by the ♂♂.

The greater number of authors have always quoted this species under the name *eupheno*, given by Linnaeus to the ♂ on page 762 of the above-quoted work, and have applied the name *belia* with Cramer as its author to the species which was named *ausonia* by Hübner. On page 761, however, Linnaeus gives a fairly recognisable description of the ♀ under the name of *belia*, so it is quite evident that the name **belia** must be applied to this insect and not to the spring generation of *E. ausonia*.

This insect appears also to be almost confined to the eastern side of the valley.

8. *Gonepteryx cleopatra* (Linn.).

Papilio cleopatra Linnaeus, *Syst. Nat.* ed. xii. p. 765. No. 105 (1767) (Barbaria).

There are 9 ♂♂ and 6 ♀♀ sent by Victor Faroult in 1913 from the months of March, April, June, and August.

9. *Colias electo croceus* (Fourcr.).

Papilio croceus Fourcroy, *Entom. par.* ii. p. 250 (1785—Paris).

Victor Faroult sent 4 ♂♂ from April and May 1913; and I took a few in 1912.

NYMPHALIDAE.

Satyrinae.

10. *Melanargia ines ines* (Hffmegg.).

Nymphalis ines Hoffmasegg, *Ill. Mag. Ins.* iii. p. 205 (1804=*thetis* Hübn.).

This is undoubtedly the most abundant of all the Rhopalocera at Guelt-es-Stel, and the collection contains an enormous series, from the month of April, collected by ourselves in 1912 and Victor Faroult in 1913, besides 1 ♂ and 3 ♀♀ from the month of May. There is a great variation in the extent of the black markings above and in the number and size of the ocelli below. Dr. Stander says the Algerian specimens of *M. ines* have more iridescent ocelli below than European ones, but I have not sufficient of the latter to determine this point.

11. *Melanargia occitanica* (Esp.).

Papilio Arge occitanica Esp. *Schmett.* i. 2. pl. 96. ff. 3. 4. (1786—Spain; = *Papilio syllius* Herbst, et auct. plur.).

Only two specimens were received from Faroult from April 1913, but he sent a long series from Djelfa, farther south.

12. *Satyrus priouri priouri* Pier.

Satyrus priouri Pierret, *Ann. Soc. Ent. France*, vol. 6. p. 304. pl. 12. f. 6 (1837) (Barbaria).

A very abundant species. Faroult's series are all from June, but at Ain Sefra, Snd Oranais, I have taken it in the latter half of May.

13. *Satyrus abdelkader abdelkader* Pierr.

Satyrus abd-el-kader Pierret, *Ann. Soc. Ent. France*, vol. 6. p. 19. pl. 1. ff. 5. 6 (1837) (Oran).

Very common; the collection contains a large series taken in 1913 by Dr. Nissen and Faroult in August, September, and October. From August there are 11 ♂♂ and 2 ♀♀, and from October 29 ♂♂ and 3 ♀♀, while there are 175 ♂♂ and ♀♀ from September.

I consider this to be typical *abdelkader*. The form *lambessanus*, which is found near Batna, is a spring generation appearing end of April and beginning of May, and does not occur at Guelt-es-Stel.

14. *Satyrus semele algerica* Oberth.

Satyrus semele var. *algerica* Oberthür, *Et. Ent.* i. p. 27 (1874—Lambèse).

A very large series taken in the mouths of May and June 1913 by Victor Faroult.

The form found at Guellet-es-Stel is very brilliant, considerably more so than the series I have from Blida, Les Glacières.

15. *Satyrus powelli* Oberth.

Satyrus powelli Oberthür, *Bull. Soc. Ent. France* (1910) p. 333 (Djebel Amour).

The collection contains a good series from the months of September and October 1913 collected by Dr. Nissen and Victor Faroult. In the ♂ above it varies in the extent and presence or absence of the white dots and buff rings of the ocelli in the forewings; below the ♂ varies in the extent of grey on the hindwing and the distinctness of the pale veins. The ♀ above and below varies much in the size of the ocelli and the extent of the buff surrounding them and in the paler or darker grey of the hindwing below.

16. *Satyrus fidia fidia* (Linn.).

Papilio fidia Linnaeus, *Syst. Nat.* ed. xii. p. 770. No. 138 (1767) (Barbaria).

A fairly large series from the months of August, September, and October 1913, collected by Dr. Nissen and Victor Faroult.

The undersides show a considerable amount of variation in the quantity of grey and also in the distinctness of the pale nervures, many specimens being undistinguishable from the *ab. albivenosa* Aust.

17. *Pararge megera megera* (Linn.).

Papilio megera Linnaeus, *Syst. Nat.* ed. xii. p. 771 (1767) (Austria).

Not very abundant; a series of 14 ♂♂, 1 ♀ from April, and 8 ♂♂, 1 ♀ from March. No apparent variation.

18. *Epinephele jurtina fortunata* Alph.

Epinephele janira var. *fortunata* Alpbéraky, *Mém. Léop. Roman.* v. p. 222. pl. 11. f. 4 (1889) (Canary Islands).

Very rare; 2 ♂♂ June 13, 1913 (Faroult).

Both ♂♂ show some rufous yellow below ocellus of forewing above.

19. *Epinephele lycaon mauritanica* (Oberth.).

Satyrus eudora var. *mauritanica* Oberthür, *Etud. Ent.* vi. p. 58 (1891) (♂ Lambèse, ♀ Sebdon).

Very rare; 1 ♂, 3 ♀♀ end of May (Faroult).

20. *Coenonympha pamphilus lyllus* (Esp.).

Papilio Nymphalus lyllus Esper, *Eur. Schmett.* vol. i. pl. 122. f. 1.

This species does not appear to be as abundant as it is elsewhere in Algeria, and the series of 85 specimens was collected in April, except a single ♂

caught on March 22. We ourselves in 1912 only captured 2 ♂♂ and 1 ♀. The characteristic yellow wash on the underside of the hindwings, which is the differentiating mark of the southern form *lyllus*, is scarcely perceptible in some specimens; while others have the whole hindwing on the underside yellow. They vary considerably above in the width of the dark margins.

Nymphalinae.

21. *Pyrameis cardui* (Linn.).

Papilio cardui Linnaeus, *Faun. Succ.* p. 276. No. 1054 (1761) (Sweden).

There are four June specimens sent by Victor Faroult in 1913 to represent this exceedingly common species.

22. *Argynnis maja seitzii* Fruhst.

Argynnis maja seitzii Fruhstorfer, *Int. Ent. Zeit.* ii. No. 12. p. 69 (1908) (Aurès Mts., **not** Alger, error).

This species is rare on the Central "Hauts Plateaux." Victor Faroult sent 3 ♂♂ and 2 ♀♀ from Guellet-es-Stel from June. The type came from the Aurès Mountains, **not** Alger, as published by Fruhstorfer; it is therefore worth while comparing specimens from the Tell and Kabylie with Batna specimens, which may prove to be distinct. The amount of variation is principally in the silver striping below, though Oberthür figures, vol. ix, of his *Et. Comp.*, pl. CCXXXV., a lilac variety and a partially melanistic one.

LYCAENIDAE

23. *Callophrys rubi fervida* Stdgr.

Callophrys rubi var. *fervida* Staudinger, *Stdgr. & Rebel, Cat. Lep. Pal. Faun.* p. 70. No. 476, b. 1901 (Spain).

This species is not common in Guellet-es-Stel; the collection contains 1 ♂ captured by us on April 16, 1912, and 8 ♂♂, 3 ♀♀ caught on March 20 and 27, 1913, by Victor Faroult.

24. *Callophrys avis* Chapm.

Callophrys avis Chapman, *Ent. Rec. & Journ. Var.* vol. 21 p. 130 (1909) (Southern France).

Very rare in this district. 2 ♀♀ and 1 ♂ April 1913 (Victor Faroult).

25. *Thestor mauritanicus* (Luc.).

Polyommatus mauritanicus Lucas, *Expl. Alg. Zool.* iii. p. 360. No. 39 pl. 1 f. 3 (1849) (Algeria).

Much rarer than *T. ballus*. Victor Faroult got 11 ♂♂ and 5 ♀♀ in March 1913, and we got 4 ♂♂ and 1 ♀ in April 1911 and 1912.

The ♂♂ show a considerable variation in the extent of the orange near torus of hindwing above.

26. *Thestor ballus* (F.)

Papilio ballus Fabricius, *Mant. Ins.* ii. p. 80. No. 729 (1787) (South Europe).

Fairly plentiful; Faroult sent 47 ♂♂ and 33 ♀♀ from the months of March and April 1912, and we took 2 ♀♀ on April 28, 1911.

No appreciable variation.

27. *Chrysophanus phlaeas* (Linn.).

Papilio phlaeas Linnaeus, *Faun. Suec.* p. 285. No. 1078 (1761) (Sweden).

This species in Algeria in the north of the Atlas has only a portion of the summer generation of the **form. aest. eleus** Fabr., but at Gneft-es-Stel all May specimens are true *eleus* with the exception of 1 ♀ which is intermediate.

There are 3 from March and 18 from May 1913 from Victor Faroult, and 5 from April 1912 taken by ourselves, besides which Faroult sent 3 ♀♀ and 4 ♂♂ set, of which I doubt the dates.

Only one specimen has a complete band of blue spots above, though several show incomplete rows of such spots.

28. *Polyommatus boeticus* (Linn.)

Papilio boeticus Linnaeus, *Syst. Nat.* ed. xii. vol. i. part 2 p. 789. No. 226 (1767) (Barbaria).

Very rare at Gneft-es-Stel: one specimen June 3rd and one October 25th, 1913 (Victor Faroult); the latter is very large.

29. *Tarucus theophrastus* (F.)

Hesperia theophrastus Fabricius, *Ent. Syst.* iii. 1 p. 281. No. 32 (1793) (Africa).

Fairly abundant wherever there are bushes of *Ziziphus lotus*. A series from June, July, and August, and a single ♂ from May sent by Victor Faroult in 1913.

30. *Zizera lorquini* *lorquini* (Herr.-Sch.)

Lycaena lorquini Herrieh-Schaeffer, *Schmett. Eur.* i. fig. 442-444 (1850) (Spain).

This species is fairly common; Victor Faroult sent a good series from the months of April and May 1913.

31. *Lycaena baton abencerragus* (Pier.)

Argus abencerragus Pierret, *Ann. Soc. Ent. France*, vol. vi. p. 19 pl. 1 ff. 5, 6 (1837) (Oran).

Not very abundant; there are 17 ♂♂ and 9 ♀♀ taken by ourselves in April 1912, and 26 ♂♂ and ♀♀ sent by Victor Faroult from March, April, and May 1913.

32. *Lycaena bellargus punctifera* Oberth.

Lycaena adonis var. *punctifera* Oberthür, *Etud. Entom.* i. p. 23 (1876) (Lambèse).

Fairly abundant. Victor Faroult sent a fine series from April and May and again from September and October 1913. The ♂♂ above vary much in the marginal row of spots on the hindwings, which often are very large and have deep orange moons above them; the ♀♀ above vary mostly in the extent of the orange bands. Below both sexes show much variation in the size and shape of the black spots. A number of ♂♂ are quite small, about two-thirds the normal size, and these are less greenish, more purplish blue.

33. *Lycaena icarus celina* Aust.

Lycaena celina Astant, *Pet. Nouv. Ent.* vol. ii. No. 212 (1879) (Sidi-Bel-Abbès).

This is also a species which is not very abundant. I received 14 ♂♂ and 6 ♀♀ from Victor Faroult captured in April, May, and June 1913. 4 ♀♀ are washed with blue, while two above closely resemble *astrarche cramera* and are very small.

34. *Lycaena martini* Allard.

Lycaena martini Allard, *Ann. Soc. Ent. France*, Ser. 4. vol. 7, p. 319. t. 6, f. 2 (1867) (Lambessa).

Apparently rare at Guellet-es-Stel, though common enough near Lambèse. Victor Faroult sent 10 ♂♂ and 3 ♀♀ from April.

35. *Lycaena allardi* Oberth.

Lycaena allardi Oberthür, *Pet. Nouv. Ent.* i. p. 412 (1874) (Sebdou).

This species is not at all abundant. We captured 3 ♂♂ and 2 ♀♀ in April 1912, and Victor Faroult sent 16 ♂♂ and 9 ♀♀ from April, May, and June 1913.

36. *Lycaena astrarche cramera* Esch.

Lycaena cramera Eschscholtz, in *Kotzeb. Reise*, iii, p. 217. pl. 10. f. 26. a, b (1821) (Canary Islands).

Victor Faroult sent 1 ♂ from May, 1 ♂ from August, and 1 ♀ from September 1913.

GRYPOCERA.

37. *Carcharodus lavaterae internirufus* subsp. nov.

This new race is much more conspicuous when alive than after it has been in the cabinet for some time.

It differs from *lavaterae lavaterae* by the cinnamon-rufous suffusion of the forewings, the very bright cream-coloured pale spots, and more especially by the bright brownish crimson of the outer four-fifths of the area of the forewings below vein 1.

It is this crimson area which fades after some months to dull pale cinnamon crimson.

We first saw this insect in the plantation at Ain Sefra in May 1913, and then I received 3 ♂♂ taken by Victor Faroult at Guellet-es-Stel in May.

Type: ♂ taken May 12, 1913.

38. *Carcharodus stauderi* Reverdin.

Carcharodus stauderi Reverdin, *Bull. Soc. Lép. Genève*, vol. ii. p. 225. pl. 21 ff. 5 & 12 (1913) (El Kantara).

This species had been taken by us at El Kantara in 1909, and we also received it from the Arab Cheli Brahim; but I always took it to be the common *altheae*, and therefore never examined it.

It is rare at Guellet-es-Stel. Faroult sent 1 ♂, 1 ♀ from May, and one battered ♂ from July 1913.

39. *Adopaea lineola* (Ochs.).

Papilio lineola Ochseneimer, *Schmett. Eur.* vol. i. par. 2. p. 230 (1808) (ex Scriba Journal).

Is not so common as *A. hamza*. Faroult sent specimens from May and June 1913.

40. *Adopaea hamza* (Oberth.).

Hesperia hamza Oberthür, *Étud. Ent.* i. p. 28. pl. iii. ff. 2. a, b, c (1876) (Oran).

This species is more abundant than the preceding. Faroult sent a good series from May, and two specimens from June 1913.

One ♂ has the wings above much suffused with black, and the nervures very conspicuous.

HETEROCERA.

I must here explain that the **Heterocera** are arranged more or less on the lines of the Standinger-Rebel Catalogue, but each separate family is arranged after more modern authors' classifications, so that my readers must forgive me if the order in some instances should appear strange.

SPHINGIDAE.

Choerocampinae.

41. *Celerio euphorbiae mauretanica* (Stdgr.).

Deilephila mauretanica Staudinger, *Cat. Lep. Palaearct.* edit. ii. p. 36 (1871) (Mauretania).

One bad specimen was taken in June 1913 by Victor Faroult; and he sent in some 26 bred specimens in more or less bad condition owing to defective packing.

42. *Celerio lineata livornica* (Esp.).

Sphinx livornica Esper, *Schmett.* ii. p. 196 (1779) (Europe).

Not rare in Guelt-es-Stel. We took 8 ♂♂ and 8 ♀♀ in April 1912, and Faroult sent in 2, one dated May 25 and the other August 7, 1913; both ♀♀. The August specimen is rather remarkable, for the oblique median band on the forewings is twice as wide as usual and pale buffish white, and from it at veins 2 and 4 there run into the cell two large wedge-shaped blotches of the same colour. In Algeria the larva of this species differs much from the form found on the northern coasts of the Mediterranean.

The Mediterranean form is dark olive-brown reticulated with yellow spots, which are very dense on all parts above the spiracular line and very sparse and small below it; head and first segment above black, a broad dorsal band velvety black, on each segment anteriorly on each side of the dorsal band and joined to it is a square black velvety patch with a dull blue central spot, a large black and dull blue patch on last segment on which stands the horn, two lateral yellow bands, the lower one passing through the spiracles, which are deep pink.

The larva of the Algerian form has the body above the line of spiracles brownish green closely reticulated with pale yellow spots, while below it is pale dirty buff; head deep rose or black, first segment anteriorly pale buff, posteriorly deep rose or black, dorsal band deep rose or buffy yellow; on each side of the dorsal band on

anterior part of each segment is a black square patch in which is a large buffy pink or plain buff spot; one yellow lateral line, the second along the spiracles being absent, each spiracle in a large pink patch.

NOTODONTIDAE.

43. *Dicranura vinula delavoiei* Gasch.

Dicranura vinula var. *delavoiei* Gaschet, *Ann. Soc. Entom. France* (5), 6. p. 522 (1876) (El-Esman, Algeria).

This constantly darker subspecies seems very rare at Guelt-es-Stel, 1 ♂ April 29, 1 ♂, 2 ♀ ♀ May 10, and 1 ♀, 1 ♂ May 13 being sent in by Faroult in 1913, and these are all I have heard of.

THAUMATOPOEADAE.

44. *Thaumatopoea solitaria* (Frr.).

Bombyx solitaria Freyer (N.B.), *Neue Beitr.* iii. p. 102, pl. 266 (1838) (Asia Minor).

Faroult sent in 12 specimens from August and September 1913, all ♂ ♂.

45. *Thaumatopoea herculeana colossa* Bang-Haas.

Thaumatopoea herculeana v. *colossa* Bang-Haas, *Iris* vol. xxiv. p. 31 (1910) (Spain and Portugal).

Very abundant at Guelt-es-Stel during the months of September and October. Victor Faroult sent in a large series of males, but only 3 ♀ ♀ in 1913. The males vary in the amount and depth of colour of the brown markings; while one ♀ is normal and brown, the other two are almost entirely white, like the typical *herculeana herculeana*. The larva is black clothed with yellow hairs.

LYMANTRIIDAE.

46. *Lymantria atlantica* (Ramb.).

Psilura atlantica Rambur, *Funn. Entom. Andal.* t. 15 f. 7 (1838-1839) (Andalusia).

This is a most variable insect, and I am convinced all the Guelt-es-Stel specimens are *atlantica*, though Dr. Nissen does not agree. Victor Faroult sent me 291 specimens from the months of May and June and August and September 1913.

LASIOCAMPIDAE.

47. *Chonderostega powelli* Oberth.

Chonderostega powelli Oberthür, *Etud. Entom. Comp.* vol. vi. p. 1336, pl. cxxxii, Nos. 1162, 1163, 1164 (1912) (Géryville et Aflou).

2 ♂ ♂, 3 ♀ ♀ and a blown larva were sent in by Victor Faroult; the imagines being from September 1913, the larva March 27, 1913.

48. *Malacosoma franconica lutea* (Oberth.).

Bombyx luteus Oberthür, *Etud. Entom.* iii. p. 44 (1878) (El-May, Oran); *Etud. Entom.* vi. pl. 1 f. 2 and p. 75.

Some of the copies of Part VI. were sent out with the figure of this insect left uncoloured, so that it appears white.

In the larval stage this insect is apparently very common all over the "Hants Plateaux," but the imago is much rarer.

Faroult sent 1 ♂ captured May 31, 1913, and 1 ♂ and 1 ♀ bred May 20, 1913.

49. *Lasiocampa josua deleta* subsp. nov.

♂ ♀. Differs from *josua josua* by the absence of the yellow patch at the base of forewing in the ♂, and in the greyish buff, not yellow suffusion of scales on the wings.

2 ♀ ♀ and several ♂ ♂, Victor Faroult, September and October 1912 and 1913.

50. *Lasiocampa trifolii mauretanic*a (Stdgr.).

Bombyx trifolii var. *mauretanic*a Staudinger, *Iris* vol. iv. pp. 260-262 (1891) (Constantine).

This is extremely variable. Faroult sent in many hundreds of specimens from September and October 1912 and 1913.

The larvae of *josua* mostly have grey hairs as opposed to the yellow ones of the *trifolii* forms, but not always; in fact the larvae of the *trifolii* group, the *josua* group, and the *dauidis-grandis* group of *Lasiocampa* are all very variable, and sometimes indistinguishable.

51. *Lambessa decolorata sordidior* subsp. nov.

A considerable amount of confusion has arisen with regard to the forms which I consider worthy of generic rank as *Lambessa*, but which Dr. Grünberg puts under *Lasiocampa*. This confusion has arisen because Dr. Seitz and others have asserted that *Lambessa staudingeri* occurs at Biskra. *Lambessa staudingeri* with its **apterous** ♀ occurs only in the "Hauts Plateaux" regions, while various forms of *decolorata* Klug. occur in the "Hauts Plateaux" as well as at Biskra. I described the form from Biskra as *Lambessa virago*. In my opinion there are only three species of palaeartic *Lambessa*, viz. *staudingeri* Baker and *decolorata* Klug., with various subspecies or local races which I give in the following table; and *grisea* Grünberg. *d. sordidior* differs from *d. virago* in the ♂ being brown-grey washed and suffused with dark cinnamon, and in the ♀ being cinnamon brown, **not** fawn buff.

The following are the several races of the three species of *Lambessa*:—

Lambessa grisea. Palaestine.

L. staudingeri staudingeri. Algeria, Hauts Plateaux, Province Constantine.

L. staudingeri castaneolarata nom. nov. Hauts Plateaux, Prov. Oran (Sebdou).

[Differs in being washed in varying degrees with cinnamon rufous.]

L. decolorata decolorata. Egyptian Soudan.

Uniform brown-grey.

L. decolorata virago. Palaestine? Biskra, El Kantara.

Uniform dark greyish buff.

L. decolorata sordidior. Prov. Alger Central, Hauts Plateaux.

Uniform cinnamon grey-brown in ♂; cinnamon brown in ♀.

L. decolorata datini. Tunisia.

Uniform slate grey.

All the larvae of the various forms and species of *Lambessa* are almost identical.

Victor Faroult sent 64 ♂ ♂ and 15 ♀ ♀ from the months of August, September, and October 1913; and I had several ♀ ♀ from Dr. Nissen taken in October 1912.

52. *Pachypasa limosa* (Vill.).

Bombyx limosa de Villiers, *Ann. Soc. Linn.* Paris, p. 478 tab. 9. ff. 2 e-g. (1826) (France) (*lineosa* auct.).

1 ♂ of this species was taken by Victor Faroult, September 12, 1913.

The Algerian specimens of this insect are as a rule browner than European ones, but not always.

53. *Taragama repanda* (Hübner).

Bombyx repanda Hübner, *Samm. Europ. Schmett.* Lep. iii. Bomb. ii. Nos. 274, 275 (1827) (Europe).

I received a ♂ and ♀ from Victor Faroult from September 30, 1912.

LEMONIIDAE.

54. *Lemonia philopalus* (Donz.).

Bombyx philopalus Douzel, *Ann. Soc. Entom. France* vol. xi. p. 198 pl. viii. f. 2 (1842) (Constantine).

We found the larvae of this fine insect in April 1912, and Victor Faroult sent a series of 102 ♂♂ and 13 ♀♀ taken at light in October and November 1912 and 1913.

The larva is at once distinguishable from the larva of *L. vallantini* Oberth., the only other Algerian species, by the quadrate red and white lateral patches, the larva of *vallantini* being entirely black with yellow bristles.

Unfortunately many of the ♂♂ were much worn.

DREPANIDAE.

55. *Drepana binaria uncinula* (Borkh.).

Phalaena uncinula Borkhausen, *Syst. Besch. Europ. Schmett.* vol. iii. p. 461 (1790) (Italy).

The only specimen, a ♂, was captured by us April 16, 1912.

NOCTUIDAE.

Agrotinae.

56. *Heliothis chanzyi* (Oberth.).

Anthoecia chanzyi Oberthür, *Etud. Entom.* Fasc. i. p. 51 pl. 2 ff. 4 a, b (1876) (South of Bou Saada).

1 ♀ April 25, 1912, captured by ourselves.

57. *Rhodocleptria incarnata* (Freyer).

Noctua incarnata Freyer, *Beitr. Gesch. Eur. Schmett.* vols. iii. & iv. pl. 256 f. 4 and pl. 383 (1838-39) (Europe).

Appears to be rare at Guelt-es-Stel; we captured 2 ♂♂ in April 1912, and I received 1 ♂ from Faroult dated May 4, 1913.

58. *Chloridea peltigera* (Schiff.).

Noctua peltigera Schiffermüller, *Syst. Verz. Schmett. Wien*, p. 89 (1776) (Vienna).

This widely spread insect varies in numbers according to the season; some years it is very abundant. We took 18 in April 1912, and Victor Faroult sent in 31, caught in September and October 1912, and March, May, and June 1913.

It is very variable, but not so much so as *obsoleta* Fabr.

59. *Chloridea nubigera* (Herr.-Sch.).

Heliolithis nubigera Herrich-Schäffer, *Syst. Bearb. Schmett. Eur.* vol. ii. p. 366 (1845) (Europe).

I received four specimens from Faroult from May 1913.

60. *Melicleptria scutosa* Schiff.

Noctui scutosa Schiffermüller, *Syst. Verz. Schmett. Wien.* p. 89 (1776) (Vienna).

One specimen was obtained by us April 21, 1912, and I received from Faroult 50 specimens captured in May, June, August, September and October.

61. *Actinotia agrotina* sp. nov.

♂. Antennae grey-brown; head buffish grey; thorax cinnamon grey; patagia slightly edged with darker grey; abdomen greyish buff.

Forewing cinnamon grey, a median black line from base ending in a buffish narrow patch outlined in black below orbicular stigma, which is elongated; reniform large, with blackish outlines and a grey, shadowy internal ocellus; from reniform almost to termen is a broad buff streak; below this and the two stigmata is a broad shadowy dark band curving upwards and reaching termen at vein 8; a terminal row of black dots; fringe chequered light and dark grey. —Hindwing satiny white; a terminal crenulated hair-line brownish grey.

♀ much paler silvery ash grey and markings more distinct.

Length of forewing: ♂ 18 mm., ♀ 17 mm.; expanse, ♂ 42 mm., ♀ 40 mm.; breadth of forewing, ♂ 10 mm., ♀ 9 mm.

Faroult sent in a considerable series of males and a few females from October 1912-1913.

62. *Actinotia mansoura* (Chrétien).

Agrotis mansoura Chrétien, *Ann. Soc. Entom. France*, vol. 79. p. 498 (1910) (Gafsa).

♂. This species is remarkably close to *agrotina*, but is at once distinguishable by its narrower wings. Antennae brown-grey; head, thorax, and abdomen dark brownish mouse-grey.

Forewing dark brown-grey, a reddish band from middle of wing through cell to almost the termen, and a general rufous wash on disc; a dark oblique line from vein 8 at termen to vein 4 almost to below outer reniform; a black line from base to almost middle of wing.—Hindwing white with brownish terminal line.

♀. Paler grey, brown and rufous almost obsolete, median area of forewing darker; hindwing washed with brownish grey and with a large stigma.

Length of forewing, ♂ 17 mm., ♀ 16 mm.; breadth, ♂ 7 mm., ♀ 6 mm.; expanse, ♂ 41 mm., ♀ 38 mm.

Victor Faroult forwarded a series from October 1912-1913.

63. *Cladocerotis optabilis* (Boisd.).

Heliophobus optabilis Boisduval, *Icon. Lep. Eur.* pl. 74 ff. 2, 3. (1832) (Europe, S. France).

I received 62 specimens dated October 1912-1913, and 5 ♂♂ and 10 ♀♀ dated November 1913 from Victor Faroult.

64. **Euxoa obesa** (Boisd.).

Agrotis obesa Boisduval, *Ind. Meth. Europ. Lep.* p. 112 (1829) (S. France).

I received 239 specimens from the months of September and October 1912-1913, sent in by Faroult.

65. **Euxoa crassa lata** (Treitsch.).

Agrotis lata Treitschke, *Schmett. Eur. Supp.* vol. x. p. 24 (1834) (Europe).

This is much rarer at Guelt-es-Stel than *obesa*; 7 ♂♂ and 10 ♀♀ are in the collection obtained by Victor Faroult in the months of August, September, and October 1912-1913.

66. **Euxoa lasserrei** (Oberth.).

Luperina lasserrei Oberthür, *Etud. Entom.* part vi. p. 86. pl. 11. ff. 13, 14 (1881) (Algeria).

I received 230 specimens of this species dated October and November 1912-1913 from Victor Faroult.

67. **Euxoa messaouda** (Oberth.).

Luperina messaouda Oberthür, *Etud. Entom.* part ix. p. 39. pl. iii. f. 3 (1884) (Sebdu).

A large series of this species from the months of October and November 1912-1913.

68. **Euxoa noctambulatrix** (Chrétien).

Cludocerotis noctambulatrix Chrétien, *Ann. Soc. Entom. France*, vol. 79. p. 502 (1910) (Gafra).

2 ♂♂ received from Faroult dated October 10, 1912. The hindwings and fringes are much washed with cinnamon pink.

69. **Euxoa matritensis** (Vasq.).

Heliophobus matritensis Vasquez, *Bol. Esp. Hist. Nat.* vol. v. pl. 1. f. 1 (Spain).

Monsieur Oberthür considers this only the dark Spanish form of his *messaouda*, but I find the Guelt-es-Stel examples present good distinctive differences.

A small series from October 1912-1913, Victor Faroult.

70. **Euxoa bledi** (Chrétien).

Agrotis bledi Chrétien, *Ann. Soc. Entom. France*, vol. 79. p. 500 (1910) (Gafra).

A considerable series is in the collection from October and November 1912-1913 sent in by Faroult.

71. **Euxoa rugifrons** (Mab.).

Agrotis rugifrons Mabille, *Bull. Soc. Entom. France* 1888, p. 42 (Gabes).

A large series from the months of October and November 1912-1913 were received from Victor Faroult.

72. **Euxoa segetum** (Schiff.).

Noctua segetum Schiffermüller, *Syst. Verz. Schmett.* pp. 81, 252. ff. 3 a, b. (1776) (Vienna).

A large series received from Faroult from the months of May, October, and November 1912-1913.

73. *Euxoa spinifera* (Hübner).

Noctua spinifera Hübner, *Samml. Europ. Schmett. Noct.* f. 389 (1827) (Europe).

Ten specimens, dated October and November 1913, were all I received from Victor Faroult.

74. *Euxoa hodnae* (Oberthür).

Agrotis hodnae Oberthür, *Etud. Entom.* part iii. p. 45, pl. 5. f. 8 (1878) (Bou Saada).

Sir George Hampson, in vol. 4 of the *British Museum Catalogue*, places this species as a synonym of *spinifera*, and Monsieur Oberthür afterwards concurred. But Sir George has now altered his opinion, as I think quite rightly.

I have one specimen from Guelt-es-Stel, collected by Faroult on May 17, 1913, and twelve others from July, October, and November 1912-1913.

75. *Euxoa christophi* (Staud.).

Agrotis christophi Staudinger, *Berl. Entom. Zeitschr.* vol. xiv. p. 110 (1870) (Sarepta).

Eighty-four specimens were sent in by Victor Faroult dated October and November 1912-1913.

76. *Euxoa radius* (Haw.) (= *puta* Hübner et auct.).

Bombyx radius Haworth, *Lep. Brit.* p. 119 (1809) (England).

Of this very abundant species innumerable variations occur, ranging from sandy buff forewings with hardly any markings and white hindwings to black brown forewings with light patch in cell and wood-brown hindwings.

Faroult sent me 274 specimens from the months of March, October, and November 1912-1913; and we took three ourselves in April 1912.

77. *Euxoa trux* (Hübner).

Noctua trux Hübner, *Samml. Europ. Schmett. Noct.* ff. 723, 725, 770 (1826) (Europe).

A large series from September and October 1912-1913 were sent by Faroult.

78. *Euxoa eos* (Oberthür).

Agrotis constanti eos Oberthür, *Lepid. Comp. Fasc. vii.* p. 672. pl. exci. ff. 1840, 1846 (1913), (Aflou).

Sir George Hampson and I compared this insect with European *constanti*, and we both came to the conclusion it was quite distinct.

Faroult sent me 9 ♂♂ and 1 ♀ dated October 1912-1913.

79. *Euxoa constanti* (Mill.).

Agrotis constanti Millière, *Icon. et Desc. Chén. Lep. Ined.* vol. i. p. 165, pl. 9. ff. 1, 2 (France).

This species differs at first sight from *eos* in the second postmedian line being much straighter. The single specimen obtained by Faroult, October 7, 1912, has the ground colour pale buff.

80. *Euxoa straminea* sp. nov.

♂. Antennae pale buffy brown; head, thorax, and abdomen straw buffy yellow. Forewing narrow and truncated straw-yellow slightly washed with brownish

yellow, a large stigma at end of cell, and a postdiscal band brown-grey, somewhat shadowy. Hindwing white.

Length of forewing 16 mm. ; breadth 9 mm. ; expanse 38 mm.

7 ♂♂, October 1912, Victor Faroult.

81. *Euxoa lycophotioides* sp. nov.

♂. In the extreme hairiness of the legs this insect is very close to the previous species.

Antennae cinnamon greyish brown ; head and thorax cinnamon grey ; abdomen pale grey cinnamon. Forewing cinnamon grey dusted all over with sooty grey ; subbasal and antemedian crenulated bands sooty grey and a median band joined to outer stigma, an interrupted and a second continuous postmedian band as well as a terminal line of dots sooty black. Hindwing white.

Length of forewing, 18 mm. ; expanse 42 mm.

I received 15 ♂♂ dated October 1912-1913 from Faroult.

82. *Euxoa powelli* (Oberthür).

Agrotis powelli Oberthür, *Lepidop. Comp.* Fasc. vi. p. 334. pl. cxxviii. ff. 1146, 1147 (1912) (Géryville).

1 ♂, 10 ♀♀, collected in May 1913, were sent in by Victor Faroult.

83. *Euxoa muriicolor* sp. nov.

♂. Antennae grey, apical fourth of shaft white ; head and thorax dark mouse grey ; abdomen paler mouse grey. Forewing dark mouse grey in median third, basal and apical thirds paler, more yellowish mouse grey ; three or four dentated ante- and postmedian lines grey-brown, two spots on outermost and crenulate terminal line black. Hindwing white ; terminal line and some cloudlike smears greyish brown.

♀. Has transverse lines very sharply defined, and is more brownish grey. Hindwing brown-grey, suffused here and there with white, fringe white.

Length of forewing, ♂ 17 mm., ♀ 16 mm. ; expanse, ♂ 40 mm. ; ♀ 38 mm.

A most variable species as regards shade of grey in ♂.

91 specimens from October 1912-1913 were received from Faroult.

84. *Euxoa oranaria* (Bang-Haas).

Agrotis oranaria Bang-Haas, *Iris*, vol. 19. p. 133. pl. v. f. 9 (1906) (Sud Oranais).

An enormous series of many hundreds of specimens of this variable species were sent by Victor Faroult, dated April, May, and June 1913.

85. *Euxoa mauretanicu* (Bang-Haas).

Agrotis mauretanicu Bang-Haas, *Iris*, vol. 24. p. 36. pl. iii. f. 4 (1910) (Sud Oranais).

15 ♂♂, 4 ♀♀, collected in May and June 1913, came from Faroult.

86. *Agrotis ypsilon* (Rott.).

Noctua ypsilon Rottemburg, *Der Naturforscher*, vol. ix. p. 141 (1776) (Europe).

Faroult sent 27 specimens from April, May, and October 1913.

87. *Agrotis nona* Oberth.

Agrotis nona Oberthür, *Lepidop. Comp.* Fasc. vii. p. 62. pl. cxi. ff. 1840, 1846 (1913) (Aflou).

Faroult sent 34 specimens from October and November 1913.

88. *Agrotis nisseni* Rothschild.

Agrotis nisseni Rothschild, *Nov. Zool.* vol. xix. p. 125. No. 2 (1912) (Ain Draham).

A fine, perfect specimen, dated October 3, 1913, was sent to me by Victor Faroult.

89. *Agrotis orbona* (Hufn.).

Phalaena orbona Hufnagel, "Tab. Lep. Berl." *Berlin. Mag.* vol. iii. p. 304 (1767) (Berlin).

1 ♂, October 2, 1913, Victor Faroult.

90. *Agrotis comes* (Fabr.).

Noctua comes Fabricius, *Mant. Ins.* vol. ii. p. 150 (1787) (Europe).

4 specimens received from Faroult, October and November 1913.

91. *Agrotis pronuba* (Linn.).

Phalaena pronuba Linnaeus, *Syst. Nat.* ed. x. p. 512 (1758) (Europe).

59 specimens, dated April, May, June, September, and October 1912-1913, came from Faroult.

92. *Agrotis augurides* sp. nov.

♂. Differs from *A. augur* in wanting the sharply defined stigmata, and in having both transverse lines beyond outer stigma reaching the costa. All markings are less defined and colour greyer.

Length of forewing 21 mm.; expanse 50 mm.

1 ♂, October 11, 1913, Victor Faroult.

93. *Agrotis flammatra* (Schiff.).

Noctua flammatra Schiffermüller *System. Verz. Schmett. Wien.* p. 80 (1776) (Vienna).

1 ♂ received from Faroult, October 13, 1913.

94. *Lycophotia kermesina* (Mab.).

Noctua kermesina Mabille, *Ann. Soc. Entom. France* (Sér. 4. vol. 9. p. 55 pl. 2. f. 10. (1869) (Bocognano).

I received 86 specimens from Faroult dated September, October, and November, 1913.

This species is enormously variable, the ground colour ranging from pale lavender grey to deep rufous and dirty olive.

95. *Lycophotia inconspicua* sp. nov.

♂♀. Antennae amber brown; head ligneous cinnamon buff; thorax ligneous cinnamon buff powdered with grey-black; abdomen ligneous grey. Forewing ligneous cinnamon yellow densely powdered with grey-black; two antemedian and one postmedian black spots on costa; stigmata barely indicated; broad median and

postmedian bands blackish grey, and a terminal line of black dots. Hindwing in ♂ greyish white, outer fifth washed with buffish grey and nervures densely powdered with same colour; in ♀ dirty whitish wood grey.

Length of forewing, ♂ 16-18 mm.; ♀ 15-18 mm.; expanse, ♂ 38-42 mm.; ♀ 36-42 mm.

13 specimens, September, October, and November 1912-1913, Faroult.

96. *Lycophotia margaritosa* (Haw.).

Noctua margaritosa Haworth, *Lep. Brit.* p. 218 (1809) (Britain).

4 specimens, May, July, and October 1913, Victor Faroult.

97. *Episilia praecipuina* sp. nov.

♂. Nearest to *praecipua* Stdgr.

Antennae dark brown; palpi orange brown; head and thorax purplish rufous chestnut; abdomen yellowish wood grey, anal tuft rufous brick red.

Forewing rufous chestnut freckled with black, costa bright rufous; stigmata dull rufous ringed with black and yellow, space between stigmata black; outer sixth of wing dark greyish chestnut edged inwardly with rusty buff; a double terminal hairline outside rusty yellow, inside black.

Hindwing greyish wood buff; outer one-third suffused with greyish brown clouds, terminal line wood brown.

Length of forewing 18 mm.; expanse 42 mm.

1 ♂, September 25, 1913, Victor Faroult.

Hadeninae.

98. *Scotogramma trifolii farkasii* (Treitsch.)

Noctua farkasii Treitschke, *Schmetz. Europ.* vol. x. Part 2. p. 74 (1835) (Europe).

This is the Algerian race, and must be treated as a good subspecies, for while it occurs in Europe as an aberration among typical *trifolii* it is the constant race in N. Africa.

Faroult sent 46 specimens, dated May, September, October, and November 1912-1913.

99. *Scotogramma cinnamomina* Rothsch.

Scotogramma cinnamomina Rothschild, *Nov. Zool.* vol. xx. p. 121. No. 36 (1913) (Nza-ben-Rzig).

Sir George Hampson says this is synonymous with *trifolii* Rott., but I now have a large series and I consider it distinct.

Faroult sent from Guellet-es-Stel 23 specimens from the months of May, June, September, October, and November 1912-1913.

100. *Scotogramma treitschkei* (Boisd.)

Hadena treitschkei Boisduval, *Ann. Soc. Linn. Paris* 1827. p. 111 pl. 6 f. 2 (South France).

This species is put as a synonym of *trifolii* by Sir George Hampson, but is a good species.

I received from Faroult, dated May, June, September, October, November, 1912-1913, 12 specimens.

101. *Scotogramma implexa* (Hübner).

Noctua implexa Hübner, *Samml. Europ. Schmett. Noct. f.* 414 (1827) (Europ.).

6 ♂♂, dated April and May 1913, were received from Victor Faroult, and we captured 2 ♂♂ in April 1912.

102. *Polia serena* (Schiff.).

Noctua serena Schiffermüller, *Syst. Verz. Schmett. Wien.* p. 84 (1776) (Vienna).

We collected 2 specimens in April 1912, and I have 3 from Faroult from April and May 1913.

103. *Polia carpophaga* (Borkh.).

Noctua carpophaga Borkhausen, *Naturg. Europ. Schmett.* vol. iv. p. 422 (1792) (Europe).

3 specimens, April and May 1913, Victor Faroult.

104. *Polia trisagittata* sp. nov.

♂. Antennae brown; head rusty cinnamon brown; thorax rusty cinnamon brown, much variegated with grey and ashy white; abdomen cinnamon buff.

Forewing cinnamon wood brown variegated with lavender grey and ashy white; a double curved subbasal line, a double lunulated antemedian line, and a waved double-lunulated postmedian line black-brown; stigmata wood brown, the inner with a broad, the outer with a narrow and broken white ring; beyond the postmedian line are arrow-like black marks one above each of veins 3, 4, and 5.

Hindwing greyish wood brown with some whitish marks principally in basal half. A second ♂ has the ground colour of forewing and thorax dark brown, and hindwing basal three-fifths yellowish whity grey, and outer two-fifths sooty brown.

Length of forewing 16 mm.; expanse 38 mm.

21 specimens, April 1912, captured by ourselves, and 57 sent in by Faroult from March and April 1913.

105. *Polia conspersa* (Schiff.).

Noctua conspersa Schiffermüller, *Syst. Verz. Schmett. Wien.* p. 71 (1776) (Vienna).

7 specimens, April, May, and June, Victor Faroult.

106. *Polia faroulti* sp. nov.

♀. Antennae amber brown; head and thorax gallstone buff, strongly powdered with blackish grey; abdomen cinnamon grey buff.

Forewing gallstone yellow, densely powdered with dark greenish grey, a subbasal ill-defined band, a very broad median band with serrated edges, a broad postmedian patch, some spots on costa, and a postdiscal zigzag line sooty black, as are the stigmata; a terminal line of golden yellow dots.

Hindwing, basal half semivitreous yellow wood buff, outer half wood brown.

Length of forewing 17 mm.; expanse 40 mm.

1 ♀, September 24, 1913, Victor Faroult.

107. *Polia antitypina* sp. nov.

♂. Antennae brown; head and thorax cinnamon buff densely powdered with dark brownish grey; abdomen cinnamon buff, paler and less speckled with grey than thorax.

Forewing whitish cinnamon grey; some spots on costa, a subbasal spot, and a broad irregular median band with zigzag edges widest at costa, olive brown grey; terminal hairline brown.

Hindwing cinnamon wood buff washed with cinnamon brown-grey, strongest on outer third.

Length of forewing 14 mm.; expanse 34 mm.

1 ♂, April 12, 1913, Victor Faroult, type; and 1 ♂, April 22, 1912, taken by ourselves.

108. *Pronotestra silenides* Stdgr.

Mamestra silenides Staudinger, *Iris*, vol. vii. p. 273. pl. ix. f. 14 (1894) (Chiclana, Andalusia).

38 specimens, April and May 1913, Victor Faroult, and 5 specimens taken by ourselves, April 1912.

109. *Saragossa seeboldi* Stdgr.

Mamestra? (*Saragossa*) *seeboldi* Standinger, *Iris*, vol. xiii. p. 109 (1900) (Saragossa).

1 ♂, September 26, 1913, Victor Faroult.

110. *Sideridis vitellina* (Hübner).

Noctua vitellina Hübner, *Samml. Europ. Schmett.* Noct. ff. 379. 589 (1827) (Europe).

1 specimen, ♂, captured by ourselves April 21, 1912, and 11 from April and May 1913, sent in by Victor Faroult.

111. *Cirphis loreyi* (Dup.).

Noctua loreyi Duponchel, *Hist. Nat. Lep. France*, vol. vii. p. 81. pl. 105. f. 7 (1827) (France).

5 specimens dated June, September, October, and November 1913.

112. *Cirphis l. album* (Linn.).

Phalaena l. album Linnaeus, *Syst. Nat.* ed. xii. p. 850 (1767) (Europe).

1 specimen, April 22, 1912, taken by ourselves, and 46 from the months of March, April, and May, September and October 1912-1913.

113. *Cirphis sicula* (Treitsch.).

Leucania sicula Treitschke, *Schmett. Eur.* vol. x. pt. 2. p. 90 (1835) (Sicily).

6 specimens dated April, September, October 1912-1913, Victor Faroult.

114. *Cirphis punctosa* (Treitsch.).

Simyra punctosa Treitschke, *Schmett. Eur.* vol. v. p. 287 (1825) (Europe).

An enormous series of many hundreds were sent by Faroult from August, September, and October 1912-1913.

115. *Cirphis putrescens* (Geyer).

Noctua putrescens Geyer, *Samml. Eur. Schmett.* Noct. ff. 730. 731 (1827) (Europe).

A big series from September, October, and November 1912-1913 were received from Faroult.

116. *Borolia lacteicolor* sp. nov.

♂. Antennae brownish yellow; head, thorax, and abdomen cream buff.
Forewings cream buff; two black dots at end of cell, an almost imperceptible antemedian darker buff line and an almost obsolete postmedian line of very minute black dots a shadowy darker buff subterminal line.

Hindwings semivitreous opalescent white.

1 ♂, September 1913, Victor Faroult.

CUCULLIANAE.

117. *Copicucullia oberthüri* (Culot).

Simyra oberthüri Culot, *Noct. et Géom. d'Eur.* Prem. Part. liv. 2. p. 26. pl. 3. f. 1 (1909) (Algeria).

Sir George Hampson is of opinion that this species is **not** a *Simyra*, but in spite of its strongly pectinated antennae should be placed in the genus *Copicucullia*.

Faroult forwarded 179 specimens, of which 176 are from October 1912 and 1913 and 3 from November 1913.

Monsieur Culot figures this insect with filiform antennae, while all mine, both ♂ and ♀, have very strongly pectinated antennae.

118. *Cucullia anthemidis* Guen.

Cucullia anthemidis Guenée, *Spec. Gén. Lepidop.* vol. vi. Noct. vol. ii. p. 140 (1852) (S. France).

4 specimens taken by ourselves April 1912, and 2 from Faroult March 1913 and November 1912.

119. *Cucullia chamomillae* (Schiff.).

Noctua chamomillae Schiffermüller, *Syst. Verz. Schmett. Wien.* p. 73 (1776) (Vienna).

Faroult forwarded 10 specimens dated March, April, and November 1913, and we took 2 in April 1912.

120. *Hypomecia quadrivergula* (Mab.).

Epimecia quadrivergula Mabille, *Bull. Soc. Entom. France*, 1888. p. 51 (Gabès).

I received 85 specimens of this species from Victor Faroult taken in October and November 1912-1913.

121. *Cleophana chabardis* Oberth.

Cleophana chabardis Oberthür, *Etud. Entom.* Fasc. i. p. 47. pl. 2. f. 2 (1876) (Bon Saada).

This species is rare at Guellet-es-Stel, though farther south it is exceedingly common. Among the present series there are no specimens of true *ab. albicans* Stdgr., only some intermediate specimens; but from Ghardaia southwards and eastwards the *ab. albicans* is more abundant than the typical form.

Faroult sent me 21 specimens from April and May 1913.

122. *Cleophana boetica diluta* Rothschild.

Cleophana boetica diluta Rothschild, *Ann. Mag. Nat. Hist.* ser. viii. vol. viii. p. 232 (1911) (Bon Saada).

This is undoubtedly the most abundant of the *Cleophana-Calophasia* group at Guellet-es-Stel.

We collected 42 in April 1912, and I received from Faroult 382 specimens from the months of March, April, and May 1913.

123. *Cleophana pectinicornis* Stdgr.

Cleophana pectinicornis Staudinger, *Stett. Entom. Zeit.* 1859, p. 215 (Chiclana, Andalusia).

This in point of numbers comes next to *boetica diluta*.

We took 49 in 1912, and Victor Faroult forwarded 257 specimens from the months of March, April and May, 1913.

124. *Cleophana jubata* Oberth.

Cleophana jubata Oberthür, *Etud. Entom.* Fasc. xiii. p. 31, pl. 6, f. 40 (1890) (Gabès, Tunis).

This insect appears to be rare at Guelt-es-Stel.

I received from Faroult 18 specimens dated March, April, and May 1913.

125. *Cleophana fatima* Bang-Haas.

Cleophana fatima Bang-Haas, *Iris*, vol. xx. p. 73. pl. 3. f. 14 (1907) (Gafsa, Tunis).

Victor Faroult sent me 12 specimens of this rare insect dated April and May 1913.

126. *Cleophana versicolor* Stdgr.

Cleophana diffluens ab. *versicolor*, *Cat. Lep. Pal.* ed. iii. p. 214, No. 2216a (1901) (Mauritania).

There has been a considerable variety of opinion concerning the status of the *Cleophanas diffluens*, *diffluens lusitanica*, *raulogeri*, *fatima*, *versicolor*, *maroccana*, and *granii*, some authors treating them as aberrations and subspecies of one single species, others saying they are all distinct.

This year (1914) we captured in April and May at Hammam Meskoutine, from whence I also have *versicolor*, a very large almost black form of *diffluens* of the type of *d. lusitanica*. This has convinced me that *versicolor* is quite distinct from *diffluens*, and I suspect that it represents *maroccana* in Algeria, and should stand as *Cleophana maroccana diffluens*, but it is so different from true *maroccana* that I prefer for the present to treat it as a distinct species.

Faroult sent in 12 of this species from April and May 1913.

127. *Amephana warionis* (Oberth.).

Cleophana warionis Oberthür, *Etud. Entom.*, Fasc. i. p. 48. pl. 2. f. 3 (1876) (South of Bou Saada).

Of this lovely insect we captured 21 in April 1912, and Faroult forwarded 149 taken in March, April, and May 1913.

128. *Amephana aurita* (Fabr.).

Noctua aurita Fabricius, *Mant. Ins.* vol. ii. p. 179 (1787) (Europe).

Victor Faroult sent me 282 specimens of this common insect from March, April, and May 1913, and we took 14 in April 1912.

129. *Omphalophana pauli* (Stdgr.).

Omphalophana pauli Staudinger, *Iris*, vol. iv. p. 301. pl. 4. f. 4 (1891) (Jerusalem).

Of this curious species Faroult sent 46 specimens dated April and May 1913.

130. *Harpagophana diacrisioides* sp. nov.

♂. Much resembles *Diacrisia turensis* Ersch. Antennae brown-grey; head, thorax, and abdomen cream-grey. Forewing cream-grey, a number of sooty brown spots along basal two-thirds of costa and white ones on apical third; a subbasal sooty brown line from costa to vein 1; a broken antemedian sooty brown band; a sooty brown spot in cell and a larger one at end of cell; a postmedian broken sooty brown band and a subterminal one from before apex to vein 5.

Hindwing yellowish grey, a darker postmedian shadow band.

♀ larger, bands and spots more indistinct and whole insect strongly suffused with rose.

Length of forewing, ♂ 15 mm., ♀ 17 mm.; expanse, ♂ 36 mm., ♀ 40 mm.

1 ♂, October 14, 1912, 1 ♀, October 22, 1913, Faroult.

131. *Metopoceras canteneri pallidior* Rothschild.

Metopoceras canteneri pallidior Rothschild, *Nov. Zool.* vol. xx, p. 123 (1913) (Guelt-es-Stel).

We captured the type and a second ♂ in April 1912, and I have received from Faroult 3 ♂♂ and 1 ♀ dated April and May 1913.

132. *Metopoceras felicina* (Donz.).

Polia felicina Donzel, *Ann. Soc. Entom. France*, Sér. 2, vol. ii, p. 199, pl. 6, f. 2 (1844) (Marseille).

1 ♂, April 12, 1913, Victor Faroult.

133. *Metopoceras morosa* sp. nov.

♂. Antennae brown; head, thorax, and abdomen brownish grey-purple. Forewing brownish grey purple; a number of yellow dots along costa, a treble antemedian band consisting of two outer black-brown lines and a median narrow orange-yellow one, a dark purple-brown curved postmedian line edged outwardly with dirty yellow and much less sinuate than in *omar* Oberth. Hindwing dark grey, outer third blackish, fringe purple cinnamon. A second ♂ much greyer.

Length of forewing 12 mm.; expanse 30 mm.

2 ♂♂, April 1913, Victor Faroult.

134. *Metopoceras khalildja* Oberth.

Metopoceras khalildja Oberthür, *Etbl. Entom.* Fasc. ix, p. 38, pl. 3, f. 1 (1884) (Sebden).

Faroult forwarded 91 specimens from March and April 1913, and we ourselves took 1 in April 1912.

135. *Metopoceras omar* (Oberth.).

Cleophana omar Oberthür, *Bull. Soc. Entom. France*, 1887, p. 57 (Oued Leber, Tunis).

92 specimens, dated March, April, and May 1913, received from Faroult, and 4 taken April 1912 by ourselves.

136. *Criophasia albolineata* (Blachier).

Criophasia albolineata Blachier, *Bull. Soc. Entom. France* 1905, p. 53 (Gafsa, Tunis).

I possess 20 specimens of this species collected by Victor Faroult in April and May 1913.

It was redescribed by Sir George Hampson as *Brachygalea leucorhabda*, *Cat. Lep. Phal. Brit. Mus.*, vol. vi. p. 8 (1906) from specimens collected by Lord Walsingham at Biskra.

137. *Calophasia chrétieni* sp. nov.

♀. This species is unlike anything I know. Antennae brown; head and thorax dark ash grey mixed with wood brown; abdomen ashy mouse grey.

Forewing dark ashy lavender grey with a very satiny sheen; a black basal median streak, a double strongly sinuate angulate antemedian line dark black-brown, a similar darker double line from costa contiguous to reniform and reaching inner margin strongly angled at vein 3; a postdiscal dark grey line from costa curving inwards till it meets the double line at vein 2; vein 2 strongly picked out in black and 2 short black streaks below it; a lavender subterminal band and a dark terminal line, fringe checkered grey and dirty buff brown. Hindwing brownish mouse grey suffused towards base with whitish, fringe pale whitish grey.

Length of forewing 15 mm.; expanse 35 mm.

2 ♀♀, June 12 (type) and May 28, 1913, sent by Victor Faroult.

138. *Calophasia almoravida* Grasl.

Calophasia almoravida Graslén, *Ann. Soc. Entom. France*, Sér. 4, vol. iii. p. 319. pl. 8. f. 6 (1863) (Grenada, Andalousia).

4 specimens taken by Faroult, April 1913.

139. *Calophasia kraussi* Rebel.

Calophasia kraussi Rebel, *Verh. Zool. Bot. Gesell.*, Wien, 1895, p. 348 (Ouargla).

1 ♀, April 8, 1913, Victor Faroult.

140. *Calophasia stigmatica* Rothsch.

Calophasia stigmatica Rothschild, *Nov. Zool.* vol. xx. p. 125, No. 49 (1913) (South Oued Mya).

1 ♀, April 7, 1913, Victor Faroult.

141. *Calophasia nisseni* (Rothsch.)

Amnetopa nisseni Rothschild, *Nov. Zool.* vol. xx. p. 123 (1913) (Guelt-es-Stel).

Monsieur Cnlot has figured this insect erroneously in his *Noctuelles et Géométries d'Europe*, pl. 30, fig. 18, as *Metopoceras codeti* Oberthür.

I have 1 specimen taken by Dr. Nissen, April 15, 1912, 3 by ourselves, April 18, 1912, and 4 by Victor Faroult, 1 on March 31 and 3 on April 4, 1913.

142. ? *Calophasia codeti* (Oberthür).

Metopoceras codeti Oberthür, *Etud. Entom.* Fasc., vi. p. 88 pl. 11. f. 10 (1881) (Sebdou).

Ten specimens taken by Victor Faroult, March and April 1913.

143. *Leucochlaena hirsuta* (Staud.).

Heliophobus hirsuta Staudinger, *Iris*, vol. iv. p. 277 (1891) (Marasch).

This is a most variable species in colour, marking and size. It has a very wide range, from Algeria in the west to Persia and Central Asia in the east.

Victor Faroult sent 129 ♂♂ and 18 ♀♀ taken in the months of September, October, and November 1912-1913.

144. *Derthisa trimacula hispana* (Boisd.).

Episema trimacula var. *hispana* Boisduval, *Icon. Hist. Lepid.*, vol. ii. pl. 72. ff. 4, 5 (1832) (Spain).

Derthisa trimacula Schiff. is one of the most variable species; but although I believe the typical form has been taken in Mauritania, it is quite certain that it does **not** occur in that part of the "Hauts Plateaux" in which Guelt-es-Stel is situated. Although very variable inter se, there are three well defined groups of aberrations corresponding to the European *trimacula*, *gruneri* and *glauca*; they will have to stand as *trimacula hispana* *ab. hispana*, *ab. albida*, and *ab. rosea* *ab. nov.*

Of the *ab. hispana* Faroult sent 69 ♂♂ and 18 ♀♀ from September and October, and 3 ♀♀ from November 1912-1913; of the *ab. albida* 41 ♂♂ and 6 ♀♀ from October and 3 ♂♂ and 2 ♀♀ from November 1912-1913; of the much rarer *ab. rosea* he only sent 1 ♀ from September, 12 ♂♂ and 1 ♀ from October, and 1 ♀ from November 1912-1913. In addition to which there is a ♂ agreeing most nearly with the European *ab. unicolor*, and another, a ♀, like *ab. albida*, but the two stigmata and fringe are orange buff, **not** black.

145. *Derthisa magnifica* sp. nov.

♂. Antennae strongly pectinated pale cinnamon; head and thorax pale cinnamon powdered with grey; abdomen buffy sulphur yellow. Forewing: basal two-thirds pale cinnamon densely powdered with dark grey scales, a basal black streak and a subbasal smear of black scales on and below vein 1; orbicular stigma white with central cinnamon dot and a narrow outer black hair-ring; reniform ill defined outwardly, basally white with black edge; postmedian double, very zigzag and narrow dark and light line; inner two-thirds of outer third of wing cinnamon with a few scattered blackish smears, outer third lavender grey, separated from the inner two-thirds by a zigzag white line with sagittate points tipped with black running into wing; fringe cinnamon brown with buff chequers. Hindwing white; an indistinct grey stigma and grey terminal hairline.

♀. Similar, but reniform almost entirely white, the lines and bands sharper and hindwing clouded with grey. A second ♂ is almost entirely grey, and 2 ♀♀ are very dark.

Length of forewing, ♂ 15-19 mm., ♀ 19-22 mm.; expanse, ♂ 36-46 mm., ♀ 46-52 mm.

6 ♂♂ and 7 ♀♀, October and November 1913, sent in by Victor Faroult.

146. *Derthisa affinis* sp. nov.

♂. Allied to *D. magnifica*; differs in forewing by having a subbasal white line, a double white and black antemedian line, a crenulate double black and white postmedian line, and a strong zigzag double black and white subterminal band. The hindwings are clouded and banded with grey.

Length of forewing 17 mm.; expanse 39 mm.

1 ♂, October 1913, Victor Faroult.

147. *Aporophyla nigra* (Haw.).

Noctua nigra Haworth, *Lepid. Brit.* p. 192 (1809) (Great Britain).

Faroult sent in 22 ♂♂ and 22 ♀♀ from October and 3 ♂♂ and 3 ♀♀ from November 1913.

148. *Cloantha ochreimacula* sp. nov.

♀. Antennae black-brown; head and thorax mouse grey; abdomen pinkish cinnamon grey strongly suffused with slate grey.

Forewing mouse grey with fine darker striae; two obsolete brown antemedian lines, a median distinct brown band enclosing claviform, beyond which is a median brownish ochreous patch below which is a black streak; an ill-defined brown band from vein 2 to vein 7.

Hindwing pinkish greyish cinnamon freckled densely with grey; stigma and subterminal band grey, fringe pink.

Length of forewing 19 mm.; expanse 43 mm.

♀, November 1913, Victor Faroult.

149. *Xylina exoleta* (Linn.).

Phalaena exoleta Linnaeus, *Syst. Nat.*, ed. x, p. 515 (1758) (Europe).

Two specimens, March and April 1913, Faroult.

150. *Dryobata furva* (Esp.).

Noctua furva Esper, *Schmett.*, vol. iv, p. 530 pl. 158 ff. 1, 2 (1789) (Europe).

One specimen, October 31, 1913, Faroult.

151. *Meganephria oxyacanthae fulva* subsp. nov.

Differs from *o. oxyacanthae* and *o. asiatica* in the ground colour being uniform cinnamon fulvous and all the markings almost obliterated.

1 ♀ Gneilt-es-Stel, October 7, 1912, Victor Faroult.

152. *Eumichtis lichenia* (Hübner).

Noctua lichenia Hübner, *Samml. Europ. Schmett.*, Noct. ff. 562-3 (1827) (Europe).

Victor Faroult forwarded 50 ♂♂ and 9 ♀♀ taken in October 1912-1913.

The *ab. tephra* Geyer preponderates over the typical form.

153. *Eumichtis accipitrina major* subsp. nov.

♂♀. Distinguished from *A. accipitrina* Esp. by its much larger size.

Length of wing *A. a. major*, ♂ 21 mm.; ♀ 22 mm.

Length of wing *A. accipitrina*, ♂ 17 mm.; ♀ 18 mm.

Expanse *A. accipitrina*, ♂ 40 mm.; ♀ 42 mm.

Expanse *A. a. major*, ♂ 48 mm.; ♀ 50 mm.

Faroult sent in 6 ♂♂ and 4 ♀♀ captured in October and November 1913.

154. *Eumichtis monochroma* (Esp.)

Noctua monochroma Esper, *Schmett.* vol. iv, pl. 155 ff. 3-6 (1791) (Europe).

I received 6 specimens of this species from Victor Faroult dated October 1912-1913.

155. *Eumichtis protea* (Schiff.).

Noctua protea Schiffermüller, *Syst. Verz. Schmett. Wien*. p. 84 (1776) (Vienna).

1 ♂, October 18, 1913, Victor Faroult.

156. *Eumichtis roboris* Hübn.

Noctua roboris Hübnér, *Sammll. Europ. Schmett. Noct.* f. 847 (1827) (Europe).

1 ♂, October 2, 1912, Faroult.

157. *Antitype rebecca* (Stand.).

Polia rebecca Staudinger, *Iris*, vol. iv. p. 282 (1891) (Jerusalem).

1 ♂, 1 ♀, October 1912, 1 ♀, September 1913, Victor Faroult.

ab. rosea ab. nov., ground-colour cinnamon-pink.

35 ♂♂, 1 ♀. October 1912–1913, Faroult.

ab. suffusa ab. nov., entire forewing suffused with brown-grey; hindwing wood-grey.

3 ♂♂, 2 ♀♀, October 1912–1913, Faroult.

158. *Antitype deliciosa* (Oberth.).

Polia venusta var. *deliciosa* Oberthür, *Bull. Soc. Entom. France* 1907. p. 345 (Sebdou).

Monsieur Oberthür and others have treated this form as a subspecies of *argillaceaga* Hübn. (*venusta* Boisd.), but I am convinced it is a distinct species. A certain number have the disc of the forewing strongly suffused with black; for this I propose the name *ab. squamosa* ab. nov.

I received 48 ♂♂ and 5 ♀♀ from September, October, and November 1912–1913 from Faroult; and 12 ♂♂ and 1 ♀ of the *ab. squamosa* from the same dates.

159. *Antitype germana* sp. nov.

♂. Allied to *deliciosa*, and very similar to the *ab. squamosa* at first sight, but at once distinguished by the sooty thorax and the whitish cinnamon grey hindwing with its central smear-like band of dark grey.

Antennae dark brown; head cinnamon buff; thorax sooty grey-black; abdomen cinnamon wood-grey powdered with sooty black. Forewing cinnamon rosy buff, upper half of basal third of wing and disc irregularly black; terminal line of spots and some smears inside of it also black. Hindwing cinnamon whitish wood-grey, a broad central smear band dark grey.

♀. Ground colour of forewing rosy cinnamon, hindwing dark grey.

Length of forewing: ♂ 14–18 mm., ♀ 17–19 mm.

Expanse: ♂ 34–42 mm., ♀ 40–44 mm.

7 ♂♂ and 4 ♀♀ were sent in by Victor Faroult, dated September and October 1913.

160. *Antitype flavicincta meridionalis* (Boisd.).

Polia meridionalis Boisduval, *Europ. Lepid. Ind. Meth.* p. 127 (1840) (S. France).

I received 8 specimens of this insect from Faroult from October and November 1912–1913.

161. *Omphaloscelis lunosa olivacea* (Vasq.).

Orthosia olivacea Vasquez, *Bol. R. Soc. Espan.* vol. vi. p. 121. pl. 1. f. 5 (1905) (Spain).

2 ♂♂ and 3 ♀♀ of this quite distinct subspecies were sent in by Victor Faroult dated October and November 1913.

162. *Amathes witzenmanni* (Standf.).

Orthosia witzenmanni Standfuss, *Mith. Schweiz. Entom. Gesell.* vol. 8. p. 233 (1890) (S. France).

1 ♂, 3 ♀♀. *ab. castanea* ab. nov., very bright chestnut; October and November 1912-1913, Faroult.

1 ♂. *ab. griseola* ab. nov., forewings pale yellowish grey; hindwings whitish grey; November 1913, Faroult.

163. *Amathes rufescentior* sp. nov.

♂. Antennae apricot rufous; head pinkish buff; thorax cinnamon apricot pink; abdomen rosy buff. Forewing cinnamon apricot pink; edge of costa, edge of inner margin, and fringe rufous apricot; an oblique antemedial line pale yellow edged outwardly with rufous apricot; a slightly curved postmedian line pale yellow edged inwardly with rufous apricot, stigmata small, greyish apricot edged narrowly with pale yellow; an indistinct subterminal line. Hindwing white, nervures and slight suffusion pale pink, outer two-sevenths of wing greyish pink.

♀. Antennae pinkish brown; head whitish buff; thorax rufous brick-red; abdomen brown-buff suffused with pink. Forewing isabel olive-brown, markings as in ♂. Hindwing wood-grey, paler at base, strongly suffused with pink, fringe buff, terminal edge dull crimson.

Length of forewing, ♂ 15-20 mm., ♀ 17-21 mm.; expanse, ♂ 35-45 mm., ♀ 40-48 mm.

This insect is almost as variable as its nearest ally, *witzenmanni* Standf., and I propose for its extreme form the name *ab. ruberrima* ab. nov.; the antennae, thorax, and forewings of which are brilliant rufous brick-red, the markings being almost entirely obliterated.

I received, of this fine insect, 16 ♂♂ and 18 ♀♀ from Faroult, dated September, October, and November 1913.

164. *Cosmia austauti* (Oberth.).

Xanthia austauti Oberthür, *Etud. Entom. Fasc.* vi. p. 87. pl. 1. f. 3 (1881) (Sidi-bel-Abbès).

1 ♂, November 15, 1913, Victor Faroult.

This is a perfectly distinct species, and not a form of *palleago* Hübn.

ACRONYCTINAE.

165. *Amphipyra tetra* (Fabr.).

Noctua tetra Fabricius, *Mant. Insect.* vol. ii. p. 138 (1787) (Europe).

Five specimens were forwarded by Victor Faroult, dated October 1912-1913, all in poor condition, but with very deep rufous hindwings.

166. *Euplexia lucipara* (Linn.).

Phalaena lucipara Linnaeus, *Syst. Nat.* ed. x. p. 518 (1758) (Europe).

1 ♀, September 25, 1913, Faroult.

167. *Margelana lithoxylea* (Bang-Haas).

Hyponecia lithoxylea Bang-Haas, *Iris*, vol. xxvi. p. 157. pl. vi. f. 19 (1912) (Batna).

1 ♂, dated October 27, 1913, was received from Victor Faroult.

168. *Centropodia inquinata* (Mab.).

Hadena inquinata Mabilie, *Bull. Soc. Entom. France* 1888. p. 43 (Gabès, Tunis).

Victor Faroult sent me 72 specimens of this species from October 1912-1913.

169. *Pseudohadena chenopodiphaga erubescens* Stdgr.

Pseudohadena chenopodiphaga var. *erubescens* Staudinger, *Cat. Lep. Palaearct.* ed. iii. p. 170. No. 1649a (1901) (Biskra).

I received from Faroult 10 specimens dated April, May, October, and November 1913, and we ourselves captured 3 in April 1912.

170. *Luperina pseudoderthisa* sp. nov.

Has a general superficial resemblance to a *Derthisa*.

♂. Antennae brown; head and thorax cinnamon strongly sprinkled and interspersed with dark wood brown; abdomen greyish cream white, anal tuft pale pinkish cinnamon. Forewing dark wood brown variegated with grey and cinnamon; a row of pale cinnamon dots on costa; orbicular stigma reduced to a cinnamon dot in a black ring; reniform large, greyish cinnamon and white; a gridiron, on lower half of basal third of wing, composed of three arrowmarks joined by fine lines black; inside this gridiron is a cinnamon streak; post-discal and subterminal sinuate fine lines whitish, passing into pale brown towards costa. Hindwing milk white.

♀ larger, triangle on forewing less prominent, orbicular large, joined to reniform by cinnamon band, subterminal line strong and angled at vein 5.

Length of forewing, ♂ 14-16 mm., ♀ 16-18 mm.; expanse, ♂ 32-38 mm., ♀ 38-42 mm.

2 ♂♂, 3 ♀♀, September and October 1912-13, forwarded by Victor Faroult.

171. *Trigonophora meticulosa* (Linnaeus).

Phalaena meticulosa Linnaeus, *Syst. Nat.* ed. x. p. 513 (1758) (Europe).

Victor Faroult sent me 3 specimens taken in May 1913.

172. *Eriopus latreillei* (Duf.).

Noctua latreillei Duponchel, *Hist. Nat. Lepid. France* vol. vii. p. 327 pl. 120 f. 2 (1827) (France).

1 ♂. October 16, 1913, Faroult.

173. *Bryophila pallida* Beth.-Baker.

Bryophila fraudatricula var. *pallida* Bethune-Baker, *Trans. Entom. Soc.* 1894 p. 37 pl. 1 f. 4 (Alexandria).

Sir George Hampson has put this down as a synonym of *receptricula* Hübn. = *strigula* Borkh., but it is, I am convinced, a perfectly distinct species.

2 ♂♂, 1 ♀, August and September 1913, Faroult.

174. *Bryophila divisa oxybiensis* Mill.

Bryophila oxybiensis Millière, *Rev. d. Zool.* 1874 p. 242 (Cannes); *Ann. Soc. Entom. France*, Sér. v. vol. v. pl. 1, ff. 10-12 (1875).

I received from Victor Faroult 3 specimens, dated June, July, and August 1913.

175. *Bryophila simulatricula* Guen.

Bryophila simulatricula Guenée, *Spec. Gén. Lepid.* vol. v. Noct. vol. i. p. 26 pl. 3 f. 4 (1852) (Europe).

Victor Faroult sent in 2 specimens dated June 13 and July 24, 1913.

176. *Bryophila petrea* Guen.

Bryophila petrea Guenée, *Spec. Gen. Lepid.* vol. v. Noct. vol. i. p. 25 pl. 3 f. 3 (1852) (Spain).

I received from Faroult 36 specimens from the months of July, August, and September 1913.

177. *Bryophila faroulti* sp. nov.

♂ ♀. Antennae black-brown; head and thorax mouse grey mixed with yellowish grey; abdomen wood grey, tufts on segments 3, 4, and 5 tipped with black-brown.

Forewing ash grey, subbasal two-fifths sooty grey; an angled whitish ante-medial line dark grey near costa, outside this an oblique double black line ending above vein 1, a postmedial angled line double from costa to median vein, single from median vein to inner margin black, on the outer side of this is a contiguous whitish line. Hindwing whitish grey suffused with wood grey.

Length of forewing, ♂ 12.5 mm., ♀ 14 mm.; expanse, ♂ 30 mm., ♀ 33 mm.

Faroult forwarded 44 specimens dated August and September 1913.

178. *Bryophila albomaculata* sp. nov.

♂. Antennae dark grey; head whitish; thorax grey mixed strongly with greenish olive; abdomen, basal half olive brown, apical half grey. Forewing bronzy olive; a twice interrupted horizontal black bar from base to termen above vein 1; basal third much mixed with cream white; reniform very large, white, beyond it a sinuate darker olive line white below vein 1; terminal fourth strongly mixed with cream white and with median dark spot. Hindwing whitish grey.

♀. Similar but darker, more grey and sinuate, postdiscal line much wider, almost developing into a white patch below vein 2. Hindwing wood grey.

Length of forewing, ♂ 13 mm., ♀ 12-15 mm.; expanse, ♂ 30 mm., ♀ 28-34 mm.

I received 1 ♂ and 6 ♀♀ from Victor Faroult dated August and September 1912-1913.

179. *Bryophila bilineata* sp. nov.

♂ ♀. Antennae pale grey; head whitish; thorax ash grey; abdomen yellowish wood grey, tufts blackish.

Forewing ash grey, with some dirty buff indistinct patches on disc; sinuate ante- and postmedial lines black; terminal line and alternated patches on fringe dark grey. Hindwing yellowish wood grey.

Length of forewing, ♂ 11 mm., ♀ 12 mm.; expanse, ♂ 26 mm., ♀ 28 mm.

Victor Faroult forwarded 84 specimens from August and September 1913.

180. *Bryophila pseudoperla* sp. nov.

♀. Antennae whitish brown; head greyish white; thorax greyish white densely freckled with brown-grey; greyish white freckled less densely. Forewing greyish white densely freckled with rusty grey; a number of scattered zigzag lines and streaks black; a large grey antemedian patch inside which is the orbicular of some colour; fringe greyish white, chequered and freckled with black. Hindwing mouse grey, fringe white.

Length of forewing 11 mm.; expanse 25 mm.

1 ♀, August 20, 1913, Victor Faroult.

181. *Hypeuthina numida* (Oberth.)

Hypeuthina numida Oberthür *Etud. Entom.* Fasc. xiii. p. 27. pl. 6 f. 41 (1890) (Magenta).

I have received of this fine species 92 ♂♂ and 10 ♀♀ taken in October 1912-1913, and 8 ♂♂ and 5 ♀♀ taken in November 1913, forwarded by Faroult. I do not think the ♂ has been recorded before; it is a highly variable species.

182. *Laphygma exigua* (Hübner)

Noctua exigua Hübner, *Samml. Europ. Schmett.* Noct. f. 362 (1808) (Europe).

This species has an enormous range, from France on the west to the Sandwich Islands on the east, and from Great Britain in the north to Cape Colony in the south.

Faroult sent 62 specimens from every month from April to November 1912 and 1913. About half are the ab. *pygmaea* Rambur.

183. *Rabinopteryx subtilis* (Mab.)

Epimecia subtilis Mabille, *Bull. Soc. Entom. France* 1888 p. 51 (Gabès, Tunis).

I received 113 specimens of this species taken by Faroult in March, April, and May 1913.

184. *Stilbia algerica* Culot.

Stilbia algerica Culot, *Noct. et Géom. Europ.* pl. 45 f. 18 (1914) (Algeria).

Monsieur Culot published this species a fortnight earlier than Herr Sterz, who described it under the name of *Stilbia nisseni*.

Faroult sent 39 specimens from October 1912.

185. *Athetis ambigua* (Schiff.)

Noctua ambigua Schiffermüller, *Syst. Verz. Schmett. Wien.* p. 77 (1776) (Vienna).

14 specimens, May and October 1913, Faroult.

186. *Athetis flava* (Oberth.)

Caradrina flava Oberthür, *Etud. Entom.* Fasc. i. p. 45. pl. 4. f. 3 (1876) (Province Oran).

24 specimens were taken by ourselves in April 1912, and I received from Victor Faroult 9 others taken in March, April, and May 1913.

187. *Athetis approximans* sp. nov.

♂♀. This species is very close to *flava*, but is much smaller and much more clouded on outer portion of forewing. One of the most striking differences is that

the ante- and postmedian lines are **double** in *approximans*, while in *flava* they are **single**. It might be said that *approximans* is probably the autumn generation of *flava*; but *flava* taken in October at Biskra are as large as spring specimens and perfectly similar.

Length of forewing *approximans*, 11.5–14 mm.; expanse, 27–32 mm.

Length of forewing *flava*, 17–19 mm.; expanse, 39–43 mm.

Victor Faroult forwarded 129 specimens taken in August, September, October, and November 1912–1913.

This has no connection with my *Athetis oberthuri*.

188. *Athetis clavipalpis* (Scop.).

Phalaena clavipalpis Scopoli, *Entom. Carn.* p. 213 (1763) (Carniola).

We captured 13 specimens in April 1912, and Faroult sent in 53 dated March, April, and May 1913.

189. *Athetis grisea* (Eversm.).

Caradrina grisea Eversmann, *Bull. Soc. Nat. Mosc.* 1848. iii. p. 215 (Scandinavia).

Victor Faroult sent in 226 specimens of this species dated September, October, and November 1912–1913.

190. *Athetis jacobsi* sp. nov.

I have much pleasure in naming this after Captain Jacobs, who was the first to discover the species at Gibraltar.

♂♀. Antennae brown, basal and apical fifth cream-colour; head cream-colour; thorax sooty grey, tegulae cream-colour freckled with grey; abdomen whitish wood grey freckled with darker grey.

Forewing sooty grey suffused with black; basal three-fifths of costa grey-buff spotted with black; antemedian; and postmedian as well as subterminal lines barely indicated; terminal edge milky buff; reniform indicated.

Hindwing whitish, nervures and outer third suffused with smoky grey-brown.

Length of forewing, ♂ 12–16 mm., ♀ 13–16 mm.; expanse, ♂ 28–36 mm., ♀ 30–36 mm.

265 specimens, dated September and October 1912–1913, were forwarded by Faroult.

191. *Athetis flavirena noctivaga* (Bell).

Caradrina noctivaga Bellier de la Chavignerie, *Ann. Soc. Entom. France.*, Sér. 4. vol. 3. p. 420. pl. 9. f. 4 (1863) (Barcelona).

We took 2 specimens in April 1912, and I received 13 taken in April and May 1913 by Victor Faroult.

192. *Athetis rufostigmata* sp. nov.

♂. Antennae brown; head silvery greyish white; thorax and abdomen silvery grey, anal tuft orange buff.

Forewing lavender silvery grey; two black dots on costa; orbicular reduced to a minute brown dot edged with buff; reniform orange rufous, large; an angled postmedian line inside reniform from costa to inner margin and a similar one beyond it darker grey; a brown-grey subterminal line.

Hindwing semivitreous, white nervures and termen broadly brown-grey.
 Length of forewing 16 mm.; expanse 37 mm.
 2 ♂♂, June 1913, Faroult.

193. *Athetis astigmata* sp. nov.

♂ ♀. Similar to *rufostigmata*, but without rufous stigma.
 1 ♂, 2 ♀♀, October and November 1912-1913, Victor Faroult.

194. *Catamecia bryophiloides* sp. nov.

♀. Antennae brown; head and thorax wood grey; abdomen paler, more yellowish.

Forewing ash grey: median area darker, this median area defined by the slate grey ante- and postmedian lines which are curved outwards from inner margin towards costa, so that at costa the antemedian line is one-fourth from base, and the postmedian line touches apex, while on inner margin they are so near together that they divide the area into three equal parts; there is a pale grey area broad to apex and just beyond postmedian line on vein 1.

Hindwing silvery grey-white, darker towards termen. ♂ is more uniform grey on forewing.

Length of forewing, ♂ 12 mm., ♀ 11-13 mm.; expanse, ♂ 27 mm., ♀ 25-29 mm.

1 ♂, 2 ♀♀, August and September 1913, Faroult.

195. *Catamecia subperla* sp. nov.

Resembles *Bryophila perla*.

♂. Antennae brown-grey, black towards base; head and thorax cream buff sprinkled closely with brown-grey; abdomen buffish.

Forewing cream white sprinkled with grey-brown; a row of spots on costa and at base and several ante- and postmedian ill-defined lines as well as the stigmata grey-brown.

Hindwing greyish white, stigma and ill-defined subterminal band wood grey.

♀. Differs in having large submedian brown patch above vein 1 on forewing.

Length of forewing, ♂ 10-14 mm., ♀ 11-13 mm.; expanse, ♂ 23-31 mm., ♀ 25-29 mm.

Faroult forwarded 95 specimens dated August, September, and October 1913.

196. *Catamecia cinnamomina* sp. nov.

This is a most variable insect: there appear to be four principal variations, and the only reason I take the one as typical is that there are 5 specimens of it, whereas of the other three there are 4, 2, and 2 respectively.

♂ ♀. Foreleg black, tarsus banded with white; antennae brown; head and thorax sandy cinnamon; abdomen cinnamon grey.

Forewing sandy cinnamon; a large quadrate chocolate patch on disc between base of vein 2 and just below subcostal nervure, from which patch a chocolate line runs on inner side to inner margin and costal edge respectively; two spots on costa and quadrate blotch below them, reaching from subcostal to base of vein 4 chocolate; beyond this a line of minute brown dots and a sinuate darker cinnamon subterminal line.

Hindwing pale cinnamon yellowish grey, a shadow stigma and median line slightly darker.

Ab. suffusa ab. nov. differs in having a chocolate subbasal line, a chocolate line **in place** of the line of minute dots beyond second chocolate patch, and between this line and the termen being entirely suffused with bluish slate-grey. Hindwings brighter cinnamon.

Ab. fasciata ab. nov. has forewing dark cinnamon-brown, and has the two chocolate patches replaced by two complete chocolate bands.

Ab. griseola ab. nov. has the forewing suffused with grey, the chocolate patches much smaller and duller, a subterminal whitish line and the postmedian line double and strongly marked, outwardly white, inwardly chocolate. Hindwing wood grey.

Length of forewing 11–14 mm. ; expanse 25–31 mm.

I received 13 specimens from September 1912–1913 collected by Faroult.

197. *Oria musculosa* (Hübner).

Noctua musculosa Hübner, *Samml. Europ. Schmett.*, Noct. f. 363 (1808) (Europe).

I received from Victor Faroult 101 specimens taken in May and June 1913.

198. *Oria myodea* (Rambur).

Synia myodea Rambur, *Cat. Syst. Lep. Andal.* pl. 6. f. 3 (1858) (Andalousia).

1 ♂, May 21, 1913, Victor Faroult.

199. *Oria striata* (Stdgr.).

Argyrospila striata Staudinger, *Iris*, vol. x. p. 265. pl. iv. f. 4 (1897) (Chellala).

Sir George Hampson and other authors have identified as this species quite another insect, which Sir George described as *Timora albida* in 1905, and which I captured in numbers at Bordj Ferjan in 1909 and Ain Sefra in 1913. Apart from the other very striking differences, that insect has strong claws on the foretibiae, which are entirely absent in *Oria striata*.

Faroult sent 195 specimens from May and June 1913.

200. *Aegle vespertalis* (Hübner).

Pyralis vespertalis Hübner, *Samml. Europ. Schmett.* Pyr. f. 159 (1818) (Europe).

20 specimens of this widespread species were received from Victor Faroult dated May and June 1913.

201. *Metaegle pallida* (Stdgr.).

Metoponia pallida Staudinger, *Iris*, vol. iv. p. 323 (1891) (Mardin).

1 ♀, May 15, 1913, Faroult.

Erastrinae.

202. *Eublemma velox* (Hübner).

Noctua velox Hübner, *Samml. Europ. Schmett.* Noct. ff. 507, 515 (1818) (Europe).

1 ♂, October 10, 1913, Victor Faroult.

203. **Eublemma arcuina** (Hübner).

Noctua arcuina Hübner, *Beitr. Gesch. Schmett.* vol. ii, 4, p. 93, pl. 2, o. (1793) (Europe).

Faroult sent me a single ♀ dated August 19, 1913. This specimen is a dwarf, only measuring 20 mm. in total expanse; length of forewing 9 mm.

204. **Eublemma ostrina** (Hübner).

Noctua ostrina Hübner, *Samml. Europ. Schmett. Noct.* 399, 648 (1808) (Europe).

This is a most variable species both in size and colour, ranging from the almost pure whitish yellow ab. *carthami* Herr.-Sch. to the nearly black purple true *ostrina*; in size my smallest from Gueltes-Stel has a forewing 8 mm. in length and an expanse of 18 mm., while the largest has a forewing 14 mm. long and an expanse 31 mm.

We captured 3 in April 1912, all pure white and the pattern in greyish wood-brown. Faroult forwarded 33 from March, April, and May 1913.

205. **Eublemma candicans faroulti** Rothschild.

Eublemma faroulti Rothschild, *Ann. Mag. Nat. Hist.* Ser. 8, vol. viii, p. 231 (1911) (Bou Saada).

The Algerian race of *candicans* Ramb. is distinguished above by the strongly marked postmedian band and below by the absence of this band; in a few specimens, however, the band **above** is only as slightly marked as in most Spanish specimens.

Victor Faroult sent in 139 specimens dated May and June 1913.

206. **Eublemma parva** (Hübner).

Noctua parva Hübner, *Samml. Europ. Schmett. Noct.* f. 356 (1808) (Europe).

1 specimen dated November 5, 1913, Victor Faroult.

207. **Eublemma albivestalis** Hampson.

Eublemma albivestalis Hampson, *Cat. Lep. Phal. Brit. Mus.* vol. x, p. 191, pl. cliv, fig. 25 (nom. nov.) (1910).

Thalpochares vestalis Staudinger, *Iris*, vol. xii, p. 385 (1889) (Dead Sea), nec Butl.

A series was sent by Faroult from June and July 1913.

208. **Eublemma deserta** (Stdgr.).

Thalpochares deserta Staudinger, *Iris*, vol. xii, p. 383 (1889) (Biskra).

A small series was forwarded to me by Victor Faroult, dated June and July 1913.

209. **Eublemma subterminalis** sp. nov.

♂ ♀. Antennae amber brown; head, thorax, and abdomen snow white.

Forewing snow white, broad terminal band amber yellow; fringe white; minute stigma, three subapical dots and a subternal dot black.

Hindwing cream buff.

Length of forewing, ♂ 11 mm., ♀ 12-14 mm.; expanse, ♂ 25 mm.; ♀ 27-31 mm.

A considerable series was received from Faroult dated June and July 1913.

210. *Eublemma lacteola* sp. nov.

♂. Entirely milk white; wings long and narrow, fringe enormously developed. Length of forewing 14 mm.; expanse 31 mm.; fringe of forewing 2.5 mm. long.

1 ♂, Faroult, May 30, 1913.

211. *Eublemma pseudostrina* sp. nov.

This species can at once be distinguished from *ostrina* ab. *carthami* by the dark band running directly to the apical point, while in the *ostrina* aberration it runs to the costa considerably before the apex; it is also much smaller.

♀. Antennae golden brown; head and thorax sulphur yellow; abdomen pale pinkish cinnamon buff.

Forewing sulphur yellow, an oblique band running from median vein near base of vein 5 to apex amber brown; fringe and apex sooty black grey.

Hindwing pale cinnamon buff.

Length of forewing 7 mm.; expanse 17 mm.

1 ♀, August 5, 1913, Victor Faroult.

212. *Phyllophila numerica* (Boisd.).

Agrophila numerica Boisduval, *Gen. et Ind. Meth.*, p. 175 (1840) (S. France).

1 specimen, ♂, May 25, 1913, Victor Faroult.

213. *Tarache lucida* (Hufn.).

Noctua lucida Hufnagel, *Berlin. Mag.*, vol. iii, p. 302 (1766) (Berlin).

Faroult sent 89 typical *lucida*, 3 specimens of the ab. *lugens* Alph., and 19 of the ab. *albicollis* Fabr., from the months of April, May, June, and September 1912-1913.

Eutelianaec.214. *Eutelia adulatrix* (Hübner).

Noctua adulatrix (Hübner), *Samml. Europ. Schmett. Noct.* ff. 517, 649, 650 (1808) (Europe).

1 received from Faroult 14 specimens dated May 1913; 2 September 1912-1913; and 1 October 1913.

Stictopterinaec.215. *Nycteola falsalis* (Herr.-Sch.).

Hypaena falsalis Herrich-Schäffer, *Deutschl. Ins.* part i, pl. 166, f. 1 (1839) (Germany).

We captured 8 specimens in April 1912. Faroult never sent it.

Catocalinaec.216. *Anua tirhaca* (Cramer).

Phalaena tirhaca Cramer, *Pap. Erot.* vol. ii, p. 116, pl. 172, f. e. (1780) (Cape of Good Hope).

Victor Faroult sent in 17 specimens from October 1912-1913.

This series exhibits all variations, from a specimen (October 18, 1913) with only an obsolescent patch from just above vein 5 to below vein 4 on hindwing to several specimens of the strongly marked ab. *separans* Walk.

217. *Parallia algira* (Linu.).

Phalaena algira Linnaeus, *Syst. Nat.* ed. xii. p. 836 (1767) (Algiers).

1 ♀, Victor Faroult, September 12, 1913.

218. *Grammodes stolida* (Fabr.).

Noctua stolida Fabricius, *Syst. Entom.* p. 599 (1775) (East Indies).

2 specimens from July 1913 and 1 from September 1912 were received from Faroult.

219. *Cerocala insana* (Herr.-Sch.).

Grammodes insana Herrich-Schäffer, *Aussereur. Schmett.* f. 395 (1850) (Cape of Good Hope—*errore!*).

Victor Faroult forwarded 11 specimens from March, May, September, October, and November 1913.

220. *Clytie syrdaja* (Hmps.).

Clytie syrdaja Hampson, *Cat. Lep. Phal. Brit. Mus.* vol. xiii. p. 293. pl. ccxxxi. ff. 19, 20 (1913) (*Aulicata*).

1 ♂, 1 ♀, July 1913 and October 1912, Faroult.

Phytopetrinae.221. *Phytopetra ni deserticola* (Rothsch.).

Phusia ni deserticola Rothschild, *Nov. Zool.* vol. xx. p. 129 (1913) (El Golea).

We collected 5 specimens in April 1912, and I received 3 from Faroult dated September 1912 and May 1913.

222. *Phytopetra gamma* (Linu.).

Phalaena gamma Linnaeus, *Syst. Nat.* ed. x. p. 513 (1758) (Europe).

Faroult sent 8 specimens dated March, April, June, September, and October 1912 and 1913, and we caught 8 in April 1912.

Noctuinae.223. *Apopestes spectrum* (Esp.)

Noctua spectrum Esper, *Schmett.* vol. iii. pl. 100. 3. 4 (1786) (Europe).

1 ♂ collected by ourselves, April 16, 1912, and 1 ♂ sent by Victor Faroult, dated October 30, 1913.

224. *Apopestes cataphanes roseata* (Rothsch.).

Spintherops roseata Rothschild, *Nov. Zool.* vol. xix. p. 126 (1912) (Ghardaïa).

3 specimens from Faroult, October 1912 and July 1913.

225. *Apopestes dilucida* (Hüb.).

Noctua dilucida Hübner, *Samml. Europ. Schmett.* Noct. ff. 383, 558 (1808) (Europe).

Some of the specimens are intermediate between *d. dilucida* and *d. rosea* Stldgr., but none are true *rosea*.

I received 12 specimens from Victor Faroult, 11 from May and 1 from August 1913.

226. *Tathorhynchus exsiccata* (Led.).

Spintherops exsiccata Lederer, *Verhand. Zool. Bot. Gesell. Wien.* 1855. p. 204. pl. 2. f. 12 (Syria).

1 captured by ourselves April 17, 1912, and 3 dated May 1913 sent in by Faroult.

227. *Zethes insularis* Ramb.

Zethes insularis Rambur, *Ann. Soc. Entom. France*, vol. ii. p. 29. pl. 2. f. 1 (1833) (Corsica).

5 specimens from May 1913, Victor Faroult.

GEOMETRIDAE.

Oenochrominae.

228. *Eumegethes tenuis* Stand.

Thalpochores (Eumegethes) tenuis Staudinger, *Iris*, vol. x. p. 268. pl. iv. f. 6 (1897) (Sfax).

Mr. Prout, when he examined this beautiful little species, was of opinion that it should be placed near *Stegania*; but Mr. Warren pointed out to me that the presence of an extra vein in the hindwing shows that the right position of *Eumegethes* is among the *Oenochrominae*. I redescribe it here, as the original description will often again be overlooked.

♂. Antennae whitish; head and thorax white; abdomen very pale buffish cinnamon. Forewing white, clouded somewhat with lavender grey on outer third of wing; an antemedian band of orange brown, a postmedian curved band of coalescent spots also brown, inside which is an indistinct, indefinite broad smear of brownish buff fading away to the inner margin; fringe brownish grey-buff. Hindwing white with an indistinct shadowy grey stigma and median line. ♀. More suffused with brown-grey.

Length of forewing, ♂ 13 mm., ♀ 14 mm.; expanse, ♂ 28 mm., ♀ 30 mm.

Victor Faroult obtained 26 ♂♂ and 16 ♀♀ in November 1913.

I am quite at a loss to conceive what was the reason which caused Dr. Standinger to describe this *Geometer* as a *Noctuid*.

229. *Egea cacuminaria* Ramb.

Egea cacuminaria Rambur, *Cat. Syst. Lep. Andal.* pl. 19. f. 2 (1858) (Andalusia).

This is a very rare species; we caught 1 ♂ April 21, 1912, and Victor Faroult sent 2 ♂♂ dated April 28 and May 1, 1913.

230. *Myinodes interpunctaria* Herr.-Sch.

Eusarca interpunctaria Herrich-Schäffer, *Syst. Bearb. Schmett. Eur.* iii. p. 34, No. 390 (1843—1856) (Sicily).

Faroult sent 7 specimens taken in March 1913.

Hemitheinae.

231. *Pingasa lahaye* Oberth.

Hypochroma lahaye Oberthür, *Bull. Soc. Entom. France*, ser. 6. vol. 7. p. 59 (1887) (Ain Sefra).

2 ♂♂ of this rare species were sent me by Faroult, dated June 12 and July 29, 1913.

232. *Chlorissa viridata* Linn.

Phalaena viridata Linnaeus, *Fauna Suecica* p. 330 (1761) (Sweden).

Five specimens were sent in by Victor Faroult from April, May, and September 1913.

233. *Microloxia herbaria* (Hübner).

Geometra herbaria Hübner, *Samml. Europ. Schmett.* v. No. 407 (1794-1827) (Europe).

1 ♂ dated September 19, 1913, Victor Faroult.

234. *Hemistola chrysoprasaria* (Esp.).

Geometra chrysoprasaria Esper, *Schmett.* vol. v. Nos. 1-4 (1794) (Europe).

Geometra vernaria Hübner, *Beitr. Schmett.* vol. i. pt. 4 l. D. p. 6 (1789) (Europe) (nec Linn.).

1 ♂ dated June 1912, was sent to me by Victor Faroult.

235. *Eucrostes indigenata* (Vill.).

Phalaena indigenata Villiers *Cur. Linn. Entom., Faun. Suec. etc.* vol. ii. p. 383, No. 632 t. 6 f. 19 (1789) (Europe).

I received 2 specimens of this beautiful species from Faroult dated June 1913.

236. *Xenochlorodes beryllaria* (Mann).

Geometra beryllaria Mann, *Verh. Zool. Bot. Gesell. Wien.* 1853 p. 76 (Dalmatia).

Faroult sent 4 specimens dated May, June, and September 1913.

Acidalianae.237. *Rhodostrophia sicanaria* (Zell.).

Geometra (Acidalia) sicanaria Zeller, *Stett. Entom. Zeit.* 1852 p. 180.

Appears to be rare, as I only received 2 ♂♂ and 2 ♀♀ from Victor Faroult, dated May 9 and 10, 1913.

238. *Craspedia ornata* (Scopoli).

Phalaena ornata Scopoli, *Entom. Carn.* p. 219 (1763) (Carinthia).

Faroult sent in 50 of this insect from the months of April and May, and 1 from June 1913.

Faroult also sent 10 specimens from July 1913; these are much smaller, whiter, and not so heavily marked. This is evidently a second generation, and I propose to name it gen. aestiv. *pumilio* form. nov.

239. *Craspedia congruata* (Zell.).

Ilaea congruata Zeller, *Iris* 1847. column 508 (Sicily).

Faroult sent me 9 specimens from April and May 1913.

240. *Craspedia violata decorata* (Borkh.).

Phalaena decorata Borkhausen, *Syst. Besch. Eur. Schmett.* vol. v. p. 460. No. 226 (1794) (Europe).

Faroult sent in 4 specimens from April and May 1913.

241. **Glossotrophia romanarioides** (Rothsch.).

Acidalia romanarioides Rothschild, *Nov. Zool.* vol. xx. p. 131. No. 89 (1913) (South Oued Mya).

We caught 1 specimen in April 1912, and Faroult sent 6 from May, September, and October 1913.

242. **Ptychopoda merklaria** (Oberth.).

Acidalia merklaria Oberthür, *Bull. Soc. Entom. France*, Ser. 6 vol. iv. p. 133 (1884) (Lambèze).

Rather rare; 4 specimens were taken by us in April 1912.

243. **Ptychopoda nexata cirtanaria** (Luc.).

Acidalia cirtanaria Lucas, *Explor. Scient. Alg. Zool.* iii. p. 395 t. 4. f. 3 (1849) (Constantine).

Also not common; we obtained 7 specimens in April 1912.

244. **Ptychopoda mediaria flavidiors** subsp. nov.

Differs from *m. mediaria* in having the ground colour much more greyish yellow.

Faroult sent 19 specimens from May and June 1913, mostly in poor condition.

245. **Ptychopoda okbaria** Chrétien.

Ptychopoda okbaria Chrétien, *Ann. Soc. Ent. France*, lxxix. p. 506 (1911) (Gafsa in Tunisia).

We got 31 specimens in April 1912, and Faroult sent 37 specimens from April, May, July, August, and September 1913.

246. **Ptychopoda seriata** (Schrk.).

Geometra seriata Schrank, *Fauna Boica*, vol. ii. pt. 2. p. 57 (1802) (Europe).

Two specimens, June and July 1913, Victor Faroult.

247. **Ptychopoda straminata** (Treitschke).

Acidalia straminata Treitschke, *Schmett. Eur.* vol. x. pt. 2 p. 205 (1835) (Europe).

A single ♀ October 7, 1912, and 2 ♂♂ May and June 1913, Victor Faroult. 2 ♂♂ caught by us April 1912.

248. **Ptychopoda renataria** (Oberth.).

Acidalia renataria Oberthür, *Etud. Entom.* iii. p. 46 (1878) (Aïn Kala).

Fairly abundant; we took 10 in April 1912, and Faroult sent me 99 taken in April and May 1913.

249. **Ptychopoda ostrinaria** (Hübner).

Geometra ostrinaria Hübner, *Samml. Eur. Schmett.* v. No. 430 (1793-1827) (Europe).

Two bad specimens from Faroult, May 1913.

250. **Ptychopoda allardiata** (Mab.).

Acidalia allardiata Mabille, *Ann. Soc. Entom. France* Ser. 4 vol. ix. p. 59 pl. 2 fig. 7 (1869) (Lambessa).

Fairly abundant; I received 96 of both sexes from Victor Faroult, taken in May 1913.

251. *Ptychopoda faroulti* sp. nov.

♀. Antennae whitish; head, thorax, and abdomen whitish grey.

Forewing greyish white, powdered slightly with brownish scales; a black discocellular stigma, a postdiscal somewhat broken line brown, between which and the termen the wing is darker grey; terminal line black, fringe whitish grey.

Hindwing similar, but a brown shadow line runs from the stigma to the abdominal margin.

♂ similar but paler.

Length of forewing 12 mm.; expanse 26 mm.

3 ♂♂, 3 ♀♀, April and May 1913, Victor Faroult.

♀ Type.

252. *Ptychopoda subsericeata* (Haw.).

Acedalia subsericeata Haworth, *Lep. Brit.* p. 352 (1810) (England).

Not abundant. Faroult sent 43 specimens from April and May 1913.

253. *Ptychopoda marginipunctata* (Göze).

Phalaena marginipunctata Göze, *Entom. Beitr.* iii. Th. iii. p. 385 (1781) (Europe).

Very rare; 3 specimens were sent me by Faroult dated April and May 1913.

254. *Ptychopoda obsoletaria algeriensis* (Baker).

Acedalia algeriensis Baker, *Trans. Ent. Soc. London*, 1888, p. 118 (Sebden).

Fairly abundant and very variable in colour and depth of marking.

68 specimens of both sexes from June, July and August 1913, Victor Faroult.

255. *Cinglis humifusaria* (Eversm.).

Fidonia humifusaria Eversman, *Bull. Nat. Mosc.* vol. 10. No. 4. pp. 29-66 (1837) (Volga).

Appears to be extremely rare; we caught 1 ♂ April 21, 1912. Faroult never got the species.

256. *Cosymbia puppillaria* (Hüb.).

Geometra puppillaria Hübner, *Samml. Europ. Schmett.* No. 69 (1794-1827) (Europe).

1 specimen dated August 5, 1913, Victor Faroult.

Larentianae.257. *Rhodometra sacraria* (Linn.).

Phalaena sacraria Linnaeus, *Syst. Nat.* ed. xii. p. 863, No. 220 (1767) (Barbaria).

This is a most variable insect; the normal form has primrose yellow forewings with an oblique pink stripe from middle of inner margin to apex and snow white hindwings; from this form it may vary from all shades of buff to a rosy brownish clay-colour with the oblique band grey, brown, or black = *ab. atrifasciaria* Stefan, or on the other hand it may pass through all shades of pink = *ab. rosaria* Oberth. to purplish blood red = *ab. sanguinaria* Esp. In the *abs. rosaria* and *sanguinaria* the oblique band is much reduced, often only indicated as a shadow band. I received 11 specimens from the months of March, July, August, October, and November collected by Victor Faroult; there are 4 normal specimens, 6 of *ab. atrifasciaria* and 1 of *ab. rosaria*.

258. *Rhometra anthophilaria consecraria* (Ramb.).

Sterrhia consecraria Rambur, *Cat. Syst. Lep. And.* pl. 20. ff. 6. 7. (1858) (Andalusia).

The various forms of *anthophilaria* can always be distinguished from *sacraria* by the oblique transverse band **not** running to the apex, but to the costa well before the apex.

Victor Faroult sent in 6 ♂♂ and 3 ♀♀ from May and June 1913.

259. *Rhometra plectaria debiliaria* subsp. nov.

♂. Differs from *pl. plectaria* Guen. in the less strongly developed rosy striations on disc of forewing.

Faroult sent 1 ♂ of this species, which is new to the Palaearctic Region, dated October 7, 1912.

260. *Larentia nisseni* sp. nov.

♂. Antennae grey with pale brown pectinations; head, thorax and abdomen grey-brown, a dorsal line of white dots on abdomen.

Forewing: basal two-thirds rufous grey-brown with minute black stigma and a number of **almost** obsolete shadow lines; a postmedian waved white transverse line, outer third of wing beyond the white line paler, darkening again towards termen.

Hindwing sericeous grey washed with cinnamon brown.

♀ much greyer and with dark transverse postmedian line.

Length of forewing, ♂ 13-17 mm., ♀ 15 mm.; expanse, ♂ 29-37 mm., ♀ 33 mm.

♂ 3 ♂, October—November 1913; ♀, 25 October 1912.

261. *Chesias hippocastanarioides* sp. nov.

♂. Antennae, head, and thorax wood brown-grey; abdomen slightly browner.

Forewing putty-colour shaded with cinnamon and striated longitudinally with brown, an interrupted brown band along vein 1 and a more broken one from base to apex along lower half of cell and a still more obsolete one on subcostal vein.

Hindwing paler and yellower.

♀. Grey marked similar to ♂, but with some darker transverse bands as well.

Length of forewing, ♂ ♀ 19 mm.; expanse 42 mm.

Both sexes from Victor Faroult.

262. *Cidaria multistriata* sp. nov.

♂. Uniform cinnamon brown with twelve crenulated sooty brown-grey transverse lines.

Length of forewing 12 mm.; expanse 26 mm.

1 ♂, April 2, 1913, Victor Faroult.

263. *Cidaria numidiata* Stlgr.

Cidaria numidiata Standinger, *Iris*, vol. v. p. 239 pl. ii. f. 22 (1892) (Bône).

Also abundant. I received 114 specimens from Faroult from the months of October 1912 and March, April, and November 1913, and we ourselves took 4 in April 1912.

264. *Cidaria oberthuri* sp. nov.

♂. This very beautiful species is quite distinct from anything else I could find. Antennae brown-grey; head greenish brown; thorax gallstone orange; abdomen deep grey-brown.

Forewing sooty black; a broad subbasal band of dark gamboge yellow edged each side with a white line; a similar narrower band beyond middle of wing; the black of the space between these two bands variegated with greenish brown, and beyond postmedian band with whitish grey.

Hindwing yellowish grey, a median and postmedian darker shadow band, terminal line dark.

Length of forewing 11 mm.; expanse 24 mm.

29 ♂♂ and 2 ♀♀ sent by Faroult, October 1912 and 1913.

265. *Cidaria alhambrata* Stdgr.

Cidaria alhambrata Staudinger, *Stett. Ent. Zeit.* 1859 p. 219 (Granada).

This species appears to be abundant at Guelt-es-Stel. I received from Victor Faroult 89 specimens of both sexes from October and November 1912-1913.

266. *Cidaria obstipata* Fabr.

Phalaena obstipata Fabricius, *Entom. Syst.*, vol. 3. pt. 1 p. 199. No. 257 (1793) (Barbaria).

1 ♂ collected by us April 21, 1912, and 1 ♂ sent by Faroult dated May 3, 1913.

267. *Cidaria roseocinnamomaria* sp. nov.

♂. Antennae, head, thorax, and abdomen pinkish cinnamon.

Forewing pinkish cinnamon crossed by nine or ten wavy transverse bands of greyish cinnamon brown; a brown stigma.

♀. Similar, but transverse bands narrower and of a more uniform width.

Length of forewing, ♂ 11.5 mm., ♀ 13 mm.; expanse, ♂ 26 mm., ♀ 30 mm.

We collected 8 ♂♂ and 8 ♀♀ in April 1912, and Victor Faroult sent 1 ♂ (Type) March 26, and 2 other ♂♂ April 1913.

268. *Cidaria sandosaria* (Herr.-Sch.).

Laurentia sandosaria Herrich-Schäffer, *Syst. Bearb. Schmelt. Eur.* vol. iii. Suppl. fig. 517, vol. vi. p. 79 (1843-1856) (Malaga).

An extremely variable insect; the aberration with the broad central area of forewing black is the *ab. bertrandi* Rothsch.

Abundant; 229 specimens of both sexes were sent in by Faroult from the months October and November 1912 and 1913, and April and May 1913.

269. *Tephroclystia innotata* (Hufn.).

Phalaena innotata Hufnagel, *Tab. Berl. Mag.*, Bd. iv. p. 616 (1769) (Berlin).

This species and the following appear to be the commonest *Tephroclystias* at Guelt-es-Stel: I received from Victor Faroult 114 specimens from March, April, May, July, August and October 1913, and we ourselves took 6 in April 1912.

270. *Tephroclystia phoeniceata* (Ramb.).

Laurentia phoeniceata Rambur, *Ann. Soc. Entom. France*, vol. iii, p. 392, tab. 8 f. 6 (1834) (Marseille).

As abundant as the former species. Faroult sent 124 specimens from the months of April and May, October and November 1913, and we captured 10 in April 1912.

271. *Tephroclystia scopariata guinardaria* (Boisd.).

Eupithecia guinardaria Boisduval, *Gen. et Ind. Meth. Parisius*, p. 211 (1840) (South France)

I received 40 specimens from Victor Faroult from October 1912 and 1913.

272. *Tephroclystia oxycedrata* (Ramb.).

Laurentia oxycedrata Rambur, *Ann. Soc. Entom. France*, vol. ii, p. 47, pl. 2 f. 12 (1833) (Bogognano).

Victor Faroult sent in 28 specimens from September and October 1912 and 1913.

273. *Tephroclystia insignifica* sp. nov.

♂. Very broad-winged. Uniform dark sooty grey with a very large number of paler crennulated transverse hairlines.

Length of forewing 13 mm.; expanse 28 mm.

1 ♂, November 4, 1913, Victor Faroult.

274. *Tephroclystia ultimaria* (Boisd.).

Eupithecia ultimaria Boisduval, *Gen. et Ind. Meth. Parisius*, p. 210 (1840) (South France).

Two specimens of this small species dated May 13 and August 7, 1913, Victor Faroult.

275. *Tephroclystia rosmarinata* (Mill.).

Eupithecia rosmarinata, Millière, *Icon. Chen. et Lep.*, 63, 4-8, ii, p. 104 (1864-1868) (Europe).

Of this curious long and narrow-winged insect we caught 1 on April 21, 1912, and Faroult sent me 8 from March and April, October and November 1913.

276. *Tephroclystia millieri* sp. nov.

♂ ♀. Similar to *rosmarinata*, but very much smaller; it differs also in being much darker, almost slate black, and the lines are more numerous, narrower, and closer together.

Length of forewing *millieri* 8 mm., *rosmarinata* 12 mm.; expanse *millieri* 18 mm., *rosmarinata* 26 mm.

Seven specimens dated June 1913, Victor Faroult.

277. *Tephroclystia oblongata* (Thunb.).

Phaluena oblongata Thunberg, *Dissert. Entom. Ins. Suec.*, pt. 1 p. 14 f. 12 (December 11, 1784) (Sweden).

Twelve specimens from May, September, October, and November 1912 and 1913.

278. *Tephroclystia pseudoscriptoria* sp. nov.

♂ ♀. Differs from *scriptoria* Herr.-Sch. in being larger, darker, and in having the bands more indistinct and broken.

Length of forewing 12 mm.; expanse 26 mm.

Faroult sent 41 specimens dated April 1913.

Orthostixinae279. *Chemerina punctinervis* sp. nov.

This fine new form shows considerable variation in size.

♂. Head, thorax, and antennae slate blue-grey; abdomen paler and suffused with buffish grey. Forewing bluish slate-grey, a dot on discocellulars, and veins partially dark brown, at the base of vein 2 and on vein 1 below it a buff spot; from vein 7 to inner margin a postmedian oblique buff band, strongest on the nervures, beyond this a row of six nervular white dots, beyond which the nervures are indistinctly picked out in brown-buff. Hindwing pale buffish grey powdered with dark grey, most densely on outer third. Underside uniform pale slate grey, more or less powdered with darker grey.

Length of forewing: largest 24 mm., smallest 20 mm.; expanse: largest 52 mm., smallest 44 mm.

♀ is much smaller, has acute-pointed forewings, and the postmedian band is white, **not** buff.

Type: ♂, November 5, 1912.

Faroult sent 10 ♂♂, 1 ♀: 6 ♂♂ from March 1913, and 11 ♂♂, 1 ♀ from October and November 1912.

Boarmianae.280. *Stegania trimaculata* (Vill.).

Phalaena trimaculata Villiers, *Cur. Linn. Entom.* vol. ii. p. 384. No. 638 (1789) (France, Austria).

1 ♂ received from Faroult dated June 1912.

281. *Hymera pennaria* (Linn.).

Phalaena pennaria Linnacus, *Fauna Suecica*, p. 324 (1761) (Sweden).

1 ♂ dated October 7, 1913, was sent in by Faroult.

282. *Crocallis fuliginosa* Rothschild.

Crocallis fuliginosa Rothschild, *Nov. Zool.* vol. xix. p. 126 (1912) (Batna).

Mr. Louis B. Prout, to whom I am much indebted for most valuable help, considered my *fuliginosa* as a form of *auberti* Oberth. This year (1914), however, I received from Captain Holl and Dr. Nissen a series of true *Crocallis auberti* from the neighbourhood of Alger, and it is evidently quite distinct from my *fuliginosa*—in fact it approaches much closer to *dardoinaria* Donz.*

Victor Faroult sent in 6 ♂♂ and 3 ♀♀ from September and October 1912 and 1913.

* They can be distinguished at once, apart from other characters, by the different curvature of the postmedian line on underside of forewing.

283. *Crocallis boisduvalaria* (Luc.).

Boarmia boisduvalaria Lucas, *Explor. Scient. d'Alg. Anim. Art.* iii. p. 391, pl. 4. f. 1 (1849) (Env. de Constantine).

Victor Faroult sent 11 ♂♂ and 1 ♀ taken in the months of September and October 1913.

284. *Crocallis dardoinaria* Donz.

Crocallis dardoinaria Donzel, *Ann. Soc. Entom. France*, vol. 9. p. 59. t. 4. f. 2 a, b. (1840) (Marseille).

This appears to be the first record of this species from Algeria. It must be very rare, as Faroult only sent 1 ♂, dated October 7, 1912.

Oberthür figures 2 ♂♂ from Ain Draham, Tunis, as aberrations of his *auberti*, but this form can always be recognised by the stigma of the forewing being broken up into a number of separate dots.

285. *Hypoplectis henricaria* (Oberth.).

Stegania henricaria Oberthür, *Etud. Entom.* vi. p. 82. t. 11. ff. 16, 17 (1881) (Environs de Sebdon).

Victor Faroult obtained of this very rare species 4 ♂♂ and 3 ♀♀ in March, 5 ♂♂ in April, and 2 ♂♂ and 1 ♀ in September 1913.

The March and April specimens are much larger, and have the oblique post-median band much more sharply defined. I propose for this the name *gen. vern. robustaria*.

286. *Hemerophila japygiaria* Costa.

H. japygiaria Costa, *Faun. Nap. A. Lep.* p. 40. t. 9. f. 5 (1851) (Naples).

One of the most variable species both in markings, colour, and size; the largest ♂ has an expanse of 44 mm., while the smallest only spans 30 mm. We took one very large and variegated ♀ on April 17, 1912, and Victor Faroult sent 16 ♂♂ and 5 ♀♀ from the months of March, April, May, June, July, and August.

287. *Calamodes occitanaria* (Dup.).

Boarmia occitanaria Duponchel, *Hist. Nat. Lep.* vol. vii. p. 340. pl. 159. f. 5 (1826-1832) (France).

3 ♂♂ of this evidently extremely scarce insect were sent by Faroult, dated October 3, 9, and 13, 1912, and 1 ♀ dated October 16, 1912.

288. *Calamodes bistrata* sp. nov.

♀. Resembles ♀ of *occitanaria*, but is much darker on the forewing, the median oblique line is double, **not** single, and the white subterminal band is much more distinct; on the hindwing the white subterminal band is narrower and strongly defined.

Length of forewing 17 mm.; expanse 37 mm.

1 ♀ dated October 3, 1912, Victor Faroult.

289. *Calamodes sordidaria* sp. nov.

♂. Uniform brown-grey, densely irrorated with rusty brown scales and alternately banded with light and dark irregular bands of the same two shades.

Length of forewing 16 mm.; expanse 35 mm.

1 ♂ from Victor Faroult, November 7, 1913.

290. *Calamodes pallescens* sp. nov.

♂. Antennae shaft pale buff, pectinations fuscous brown; head and thorax clay buff slightly powdered with brown; abdomen clay buff with darker edges to segments.

Forewing: basal three-fifths obliquely clay buff, somewhat powdered with darker scales, outer two-fifths obliquely pale clay brown; a narrow oblique antemedian line from inner margin to below subcostal nervure chestnut brown, a black-brown stigma, an oblique indistinct median clay-brown line and a postmedian oblique, strongly marked black-brown line from inner margin to vein 7, where it is sharply angled into the costa, gradually vanishing; a postdiscal clay-buff indistinct line runs from inner margin to vein 6; terminal edge brown, fringe clay buff. —Hindwing: outer two-fifths pale clay brown, basal three-fifths clay buff: lines as on forewing, except antemedian line, which is wanting. Underside uniform clay buff with brown stigmas and median lines showing through from above.

♀. Much greyer than ♂, and outer half of outer two-fifths of wings also grey.

Length of forewing: ♂ 14–20 mm., ♀ 16–21 mm.; expanse, ♂ 31–44 mm., ♀ 35–46 mm.

This species varies also considerably in the shade of the ground colour. We took 4 ♂♂ in April 1912, and Faroult forwarded 49 ♂♂ and 17 ♀♀ from October 1912 and April, May, September, and October 1913.

291. *Calamodes harterti* (Rothsch.).

Hemerophila harterti Rothschild, *Nov. Zool.* vol. xix. p. 127 (1912) (El Kantara).

Varies much in size, and 1 ♀ has the pale markings very white.

♂ expanse 26 mm.—39 mm.; ♀ expanse 33 mm.—40 mm.

We got 6 ♂♂ in April 1912, and Faroult sent 13 ♂♂ and 5 ♀♀ from April and May and July and August 1913. The July and August specimens are all dwarfs, so that there appears to be seasonal variation.

292. *Calamodes postdentaria* sp. nov.

♂. Rusty brown-grey irrorated with darker scales. Antennae sooty black-brown; head, thorax, and abdomen rusty brown-grey.

Forewing rusty brown-grey, a convexly curved antemedian black line, an oblique median black band angled sharply between veins 6 and 7, broadening into a double band below vein 4, an irregular double line at end of cell black, a black-brown anteterminal band and terminal line black.—Hindwing rusty brown-grey, a postmedian and a subterminal band black-brown; terminal line black; edge and fringe strongly dentate. *Ab. grisearia* is quite similar, but ground colour clear ash-grey.

Length of forewing 17–20 mm.; expanse 37–43 mm.

Faroult sent 3 typical ♂♂ and 2 ♂♂ *ab. grisearia* September 1912 and 1913.

293. *Gnophos mucidaria ochracearia* Stdgr.

Gnophos mucidaria var. *ochracearia* Standinger, *Cat. Lep. Pal.* ed. iii. part 1. p. 346. No. 3957a (1901) (Spain, Mauretania).

We took 3 specimens of this very variable insect in April 1912, and I received from Victor Faroult 61 specimens from the months of March, April, May, September, October, and November.

294. *Gnophos similaria* sp. nov.

♂ ♀. Similar to *mucidaria*, but larger, more olive, and much more heavily strigilated.

Length of forewing: ♂ 15 mm., ♀ 16 mm.; expanse, ♂ 33 mm., ♀ 36 mm.

Victor Faroult sent in 47 specimens of this species from August and September 1912 and 1913.

295. *Gnophos omararia* Oberth.

Gnophos omararia Oberthür, *Etud. Lep. Comp.* vii. p. 309, t. 180 ff. 1767, 1768, t. 181, f. 1769 (1913).

Victor Faroult sent in, of this exceedingly abundant and variable species, 132 specimens from the months of October 1912 and 1913.

296. *Gnophos faroulti* sp. nov.

♂ ♀. Head and thorax wood grey irrorated with darker grey; antennae grey; abdomen yellow clay grey.

Forewing pale ash grey strongly irrorated with darker grey, nervures yellowish, a median row of dark slate grey-black spots forming a curved median line; fringe dark grey with a buffy grey spot on the end of each nervure. Hindwing similar, but the fringe uniform and nervures less yellowish.

Length of forewing, ♂ 21 mm., ♀ 23 mm.; expanse, ♂ 46 mm., ♀ 50 mm.

I received 2 ♀ ♀ and 7 ♂ ♂ from October 1912 and November 1913 from Victor Faroult.

297. *Gnophos homochromata* (Mab.).

Liodes homochromata Mabille, *Ann. Soc. Entom. France*, Ser. 4. vol. 9. p. 56, pl. 2. f. 9 (1869) (Corsica).

6 ♂ ♂ of this exceedingly rare species were sent me by Victor Faroult dated August and September 1913.

298. *Fidonia nelvae* Rothsch.

Fidonia nelvae Rothschild, *Nov. Zool.* vol. xix. p. 126. No. 8 (1912) (Batna).

Faroult sent 4 ♂ ♂ and 1 ♀, the ♀ from May and the ♂ ♂ from August and September 1913.

299. *Athroolopha chrysitaria latimargo* subsp. nov.

This new form is remarkable for its large size and brilliant coloration. The bulk of authors have treated *chrysitaria* as a form of the variable *pennigeraria*, but Mr. Prout tells me he considers it to be a distinct species.

♂ ♀. Differs from *ch. chrysitaria* in its much larger size and deeper colour; the black margin to hindwing is almost double as wide, and the ante- and postmedian bands on the forewings are much broader and more distinct.

Victor Faroult never obtained this species, and all the 20 ♂ ♂ were caught by myself on April 21, 1912.

300. *Selidosema picturata* sp. nov.

Closely allied to *S. ambustaria* Hübn. Gey., but much more strongly marked and without either the yellow wash or the close strigilation of the upper surface.

♂ ♀. Differs at first sight from *ambustaria* in the anteterminal line being pure white, **not** ochreous, and this line also is sharply angled inwards at vein 4, **not** only slightly sinuous; the postmedian black line strongly sinuate, but **not** angled outwards as in *ambustaria*. On the hindwing the anteterminal line is also white and sharply angled outwards, not only sinuate.

The species is most variable, the space between the ante- and postmedian lines on the forewings varying in colour from pale lavender through slate-blue to deep brown.

Length of forewing, ♂ 15–21 mm., ♀ 16–20 mm.; expanse, ♂ 33–46 mm., ♀ 35–44 mm.

Victor Faroult sent from the months of September and October 1912 and 1913 63 ♂♂ and 60 ♀♀, but mostly very much worn.

301. *Itame vincularia latefasciata* subsp. nov.

Differs from the typical form in the postmedian line being strongly angulated at vein 6, in the chestnut coalescing band outside this line being much wider, and the antemedian band being more distinct.

We collected 5 ♂♂ in April 1912, and Victor Faroult sent me 18 ♂♂ and 8 ♀♀ from the months of April, May, and June 1913.

302. *Tephрина partitaria* (Hübner).

Geometra partitaria Hübner, *Samml. Eur. Schmett.* No. 374 (1793–1827) (Europe).

Victor Faroult sent me 39 ♂♂ and ♀♀ of this species from October 1912 and 1913, and 1 ♀ of the *ab. obliterated* Stdgr. April 2, 1913.

303. *Tephрина fraternaria* sp. nov.

This species is allied closely to the preceding, but is easily distinguished by the much more pointed forewing, the grey not so strongly irrorated ground colour, and the much greater width between the ante- and postmedian bands, which are much straighter.

♂. Antennae orange brown; head and front half of thorax slate grey; hind part of thorax and abdomen yellowish grey.

Forewing sooty grey, termino-subterminal area mouse grey, with median black or black-buff spot; costal and subcostal area to postmedian line mouse grey freckled here and there with buff; ante- and postmedian bands yellow. Hindwing clear grey irrorated slightly with darker scales and with an indistinct shadowy stigma.

♀. Similar, but the whole forewing deep grey to mouse grey and the yellow bands narrower, sometimes absent or semi-absent.

Length of forewing, ♂ 15 mm., ♀ 14–18 mm.; expanse, ♂ 33 mm.; ♀ 31–39 mm.

Faroult sent me 68 ♂♂ and ♀♀ from October and November 1912 and 1913.

304. *Tephрина biskraria* Oberthür.

Tephрина biskraria Oberthür, *Bull. Soc. Entom. France*, Ser. 6, vol. iv, p. 134 (1884) (Biskra).

2 ♂♂, 1 ♀ sent in by Victor Faroult dated, ♀ July 30, 1913, and the 2 ♂♂ September 20 and October 20, 1912.

305. *Tephрина viridaria* sp. nov.

♀. Antennae buffish brown; head and thorax pale glaucous green; abdomen buffish amber brown.

Forewing bright glaucous green, two larger and several minute rufous spots on costal area, two antemedian almost obsolete shadow lines, a postmedian rufous line somewhat obsolete joins outermost rufous costal spot, outside which are two rusty rufous spots; fringe yellow and brown. Hindwing paler glaucous green freckled somewhat with brown, a rusty brown waved median line.

Length of forewing 16 mm.; expanse 36 mm.

1 ♀ dated October 4, 1913, Victor Faroult.

306. *Tephрина cinnamomaria* sp. nov.

♀. Antennae whitish; head and thorax greyish cinnamon; abdomen yellowish (? greasy).

Forewing greyish cinnamon; two curved darker transverse bands; three dark grey spots on costa, zigzag terminal line dark grey. Hindwing similar.

Length of forewing 13 mm.; expanse 29 mm.

1 ♀ October 4, 1913, Victor Faroult.

307. *Scodiona lentiscaria* (Donz.).

Crocallis lentiscaria Donzel, *Ann. Soc. Entom. France*, vol. vi. p. 13. t. i. figs. 1, 2.

This and the following are much rarer than *Sc. plebejaria* at Guellet-es-Stel; Dr. Nissen took 2 when we were there together in April 1912, of which 1 ♂ is at Tring, and Victor Faroult sent in 1 ♂ and 3 ♀♀ from April 1913.

308. *Scodiona albirosea* Rothschild.

Scodiona albirosea Rothschild, *Ann. & Mag. Nat. Hist. Ser. 8*, vol. viii. p. 232 (1911) (Bou Saada).

This is also one of the rarer species. We took 1 ♂ in April 1912, and Victor Faroult sent in 3 ♂♂ and 4 ♀♀ from October 1912 and April, May, and October 1913.

309. *Scodiona plebejaria* (Oberth.)

Zuleika plebejaria Oberthür, *Etud. Entom. Comp.* Fasc. iv. 1. p. 677. No. 437. pl. li. f. 437 (1910) (El Aouedje, Sebden).

This species is very variable in colour and marking as well as in size, varying from rosy brick-red to rosy buff, and while a ♂ dated April 17, 1912, taken by us, has only the stigma and a subapical spot on the forewing and a stigma on hindwing, a ♂ taken in April 1913 by Faroult has on the forewings complete ante- and postmedian bands of spots and on the hindwings complete postmedian bands. The smallest ♂ has an expanse of 33 mm., while the biggest measures 44 mm. We collected 22 ♂♂ in April 1912, and Victor Faroult sent 108 ♂♂ and 8 ♀♀, all from April 1913.

310. *Aspilates ochrearia* (Rossi).

Phalaena ochrearia Rossi, *Mant. Ins.* vol. ii. p. 53. tab. 7. N. (1794) (Etruria—Tuscany).

Victor Faroult sent 2 ♂♂ and 3 ♀♀ from September 1912 and April 1913.

311. *Comptosia argenticaria yaminaria* (Oberth.)

Ligia yaminaria Oberthür, *Etud. Entom.* vi. p. 84, pl. xi, f. 4. (1881) (Ben-Youb).

This subspecies differs from the European *a. argenticaria* by its larger size, by the grey of the forewings being purer and less washed with brown, and by the pattern being much more strongly marked. The females are also almost entirely grey, the median longitudinal band having much less brown than in the European form.

Victor Faroult sent in 60 ♂♂ and 73 ♀♀ from the month of October 1912 and 1913.

312. *Comptosia jourdanaria* (Vill.).

Geometra jourdanaria de Villiers, *Ann. Soc. Linn. Paris.* vol. v. p. 480, t. 9, fig. 3 (1827) (France).

This species is quite abundant. Faroult sent in 49 ♂♂ and 67 ♀♀ from October 1912, and September, October, and November 1913. It varies much in the size and extent of the white markings.

ARCTIADAE.

Nolinae.

313. *Celama squalida* (Stdgr.).

Nola squalida Staudinger, *Berl. Entom. Zeits.* vol. xiv. p. 102 (1870) (Malaga).

1 ♂ taken by ourselves, April 1912.

Lithosianae.

314. *Ilema* (*Lithosia* anct.) *interposita* sp. nov.

♂. Antennae whitish; head and thorax pale whitish grey; abdomen pale buffish clay grey. Forewing silvery white. Hindwing milk white suffused with very pale buffy grey. ♀. Similar.

Length of forewing 17 mm.; expanse 37 mm.

Type ♂, April 22, 1912, W. R. and K. J.

We obtained 86 specimens of this species between April 17 and 22, 1912.

Arctianae.

315. *Epimydia libyssa* (Püngl.).

Euprepia libyssa Püngler, *Societ. Entom.* xxii. p. 25 (1907) (Magenta).

It is rather curious that Dr. Seitz says that Püngler's *libyssa* has an unspotted abdomen, for the author himself distinctly says it has a median band of black spots. It is evident that Dr. Seitz never studied this insect, or he could not have placed it as a form of *cribraria*. It belongs to a quite different genus along with *dialampa* Stdgr.

Victor Faroult sent 1 ♂ from September and 20 ♂♂, 1 ♀ from October 1913. The number of spots varies much on the forewings.

316. *Cymbalophora pudica magnifica* subsp. nov.

The Algerian race is generally easy to separate; it is much larger than *pudica pudica*, and much more intensely suffused with pink.

Victor Faroult sent 1 ♂ and 1 ♀ bred specimens, evidently starved, dated September 23, and 1 caught specimen, September 10, 1913.

317. *Cymbalophora powelli* Oberth.

Cymbalophora powelli Oberthür, *Bull. Soc. Entom. France* p. 333 (1910) (Géryville).

Dr. Nissen and Victor Faroult both found this species abundant in September and October 1912 and 1913. Faroult sent in a large series of both ♂♂ and ♀♀.

318. *Cymbalophora haroldi* Oberth.

Cymbalophora haroldi Oberthür, *Etud. Lep. Comp.* Fasc. v. pt. 2 p. 123 (1911) (Aflou).

In Guelt-es-Stel this species appears to be extremely rare, while at Aflou Harold Powell found it to be a fearful pest.

Victor Faroult sent 1 perfect ♂ dated September 22, 1913, which agrees absolutely with the figure 1046 in *Etud. Lep. Comp.* Fasc. vi. pl. cxix. (1912).

319. *Utetheisa pulchella* (Linn.).

Tinea pulchella Linnaeus, *Syst. Nat.* ed. x. vol. i. p. 534. No. 238 (1758).

56 specimens were collected by Victor Faroult during the months of April, May, June, and July 1913.

ZYGAENIDAE.

Zygaeninae.

320. *Zygaena loyselii* Oberth.

Zygaena loyselii Oberthür, *Etud. Entom.* i. p. 34. pl. 4. fig. 4. (1876) (Daya ; Lambessa).

This species appears to be rare at Guelt-es-Stel, as Faroult only sent in 18 specimens collected end of May 1913. They are nearly all in poor condition.

321. *Zygaena thevestis* Stdgr.

Zygaena thevestis Standinger, *Berl. Ent. Zeitsch.* vol. xxxi. p. 33 (1887) (Tebessa).

Dr. Seitz in the *Grossschmetterlinge der Erde*, vol. ii., has united as aberrations under *Zygaena fazonia* the following forms: *vitrina* Stdgr., *staudingeri* Aust., *loyselii* Oberth., *confluens* Dzierz., *valentini* Brnand., and *thevestis* Stdgr. Since this was published in 1909, however, Monsieur A. Nelva of Batna has succeeded in breeding all these forms, with the exception of *thevestis*, and he has proved that *loyselii*, *vitrina*, and *fazonia* are three distinct species with different larvae and habits.

Z. fazonia has a pale green larva with pink head and very few if any black spots ; it feeds on *Eryngium campestre*, and skeletonises the upper mature leaves.

Z. loyselii has a darker green larva with black head and a number of dark spots, and feeds also on *Eryngium campestre*, but bores into and feeds in the central stem of the plant where it enters the ground ; the cocoon of *loyselii* is boat-shaped and comparatively smooth, while that of *fazonia* has three or four strongly protruding longitudinal ribs.

Z. vitrina has a different and more hairy larva, and feeds on one or more of the blue-flowered *Eryngiums*.

I now come to the question of *therestis* Stmgr. This form has hitherto been obtained from places where the other *favonia*-like forms also occur, and in consequence has been confused as an aberration with certain extreme *valentini*. I now, however, am in a position to claim this insect as a distinct species, for Victor Faroult sent in from Guelt-es-Stel a series of 478 *Zygaenas*, of which 18 are *loyselis* and 460 *therestis*, and no others. This large series of *therestis* shows that, just as in *favonia* and *loyselis*, there is much variation, but while the variation is great both in size of the ♂ and in the degree of confluence of the spots, there are none among them which could be united to *favonia*. The most extreme variety is a ♀ in which all the spots and streaks in basal two-thirds of wing are confluent, and the subapical patch is enormously extended, so that there appear to be only two large red patches occupying seven-eighths of the entire wing. The series was taken in May and June 1913, and the species appears confined to a small area above the water tank on the eastern side of the road.

HETEROGYNIDAE.

322. *Somabrachys atrinervis* Oberth.

Somabrachys codeti var. *atrinervis* Oberthür, *Lepidop. Comp. Fasc. v. No. 1. p. 301. Pl. B.* (1911) (Sebdou).

A large series from the month of September 1913 sent by Victor Faroult.

323. *Somabrachys chrétieni* Oberth.

Somabrachys chrétieni Oberthür, *Bull. Soc. Entom. France*, 1908, p. 48 (Sebdou).

I received a large series dated September 1913 from Victor Faroult.

324. *Somabrachys klugi* Oberth.

Somabrachys klugi Oberthür, *Lepidop. Comp. Fasc. v. No. 1. p. 301. Pl. D.* (1911) (Sebdou).

A large series from September 1913 from Victor Faroult.

325. *Somabrachys adherbal* Oberth.

Somabrachys adherbal Oberthür, *Lepidop. Comp. Fasc. v. No. 1. p. 301. Pl. D.* (1911) (Géryville).

A large series received from Faroult dated September and October 1913.

COCHLIDIDAE (LIMOCODIDAE anct.)

326. *Cochlidion codeti* (Oberth.)

Limacodes codeti Oberth., *Bull. Soc. Entom. France*, 1883, p. 48 (Sebdou).

Victor Faroult sent in 23 specimens from the months of May, August, September and October.

PSYCHIDAE.327. **Oreopsyche mediterranea** (Led.)

Psyche mediterranea Lederer, *Verhandl. Zool. Bot. Gesell. Wien*, 1852. p. 113 (Mediterranean Coasts).

1 ♂, March 15, 1913, Victor Faroult.

328. **Amicta murina mauretanica** Rothschild.

Amicta murina mauretanica Rothschild, *Nov. Zool.* vol. xx. p. 133. No. 103 (1913) (Bon Saada).

I received 193 ♂♂ from Victor Faroult from the months of August and September, and 1 ♂ from October 1913.

329. **Apterona pusilla** (Speyer).

Psyche helicinella var. *pusilla* Speyer, *Stett. Entom. Zeit.* p. 335 (1886) (Constantine).

1 ♂, May 13, 1913, Victor Faroult.

COSSIDAE.330. **Holococerus powelli** Oberthür.

Holococerus powelli Oberthür, *Etud. Entom. Comp.* Fasc. v. No. 1. p. 333. pl. 79. ff. 722, 723 (1911) (Géryville).

Appears to be very abundant. Faroult sent a long series of both sexes from the months of July and August 1913.

331. **Dyspessa marmorata** (Ramb.).

Endogria marmorata Rambur, *Cat. Syst. Lep. Andal.* p. 332. pl. 5. f. 6 (1858) (Granada).

Faroult sent 32 ♂♂ from May 1913.

332. **Dyspessa algeriensis** (Ramb.).

Endogria algeriensis Rambur, *Cat. Syst. Lep. Andal.* p. 331 footnote (1858) (Algeria).

Faroult sent 3 ♂♂ and 16 ♀♀ from April 1913.

(To be continued.)
